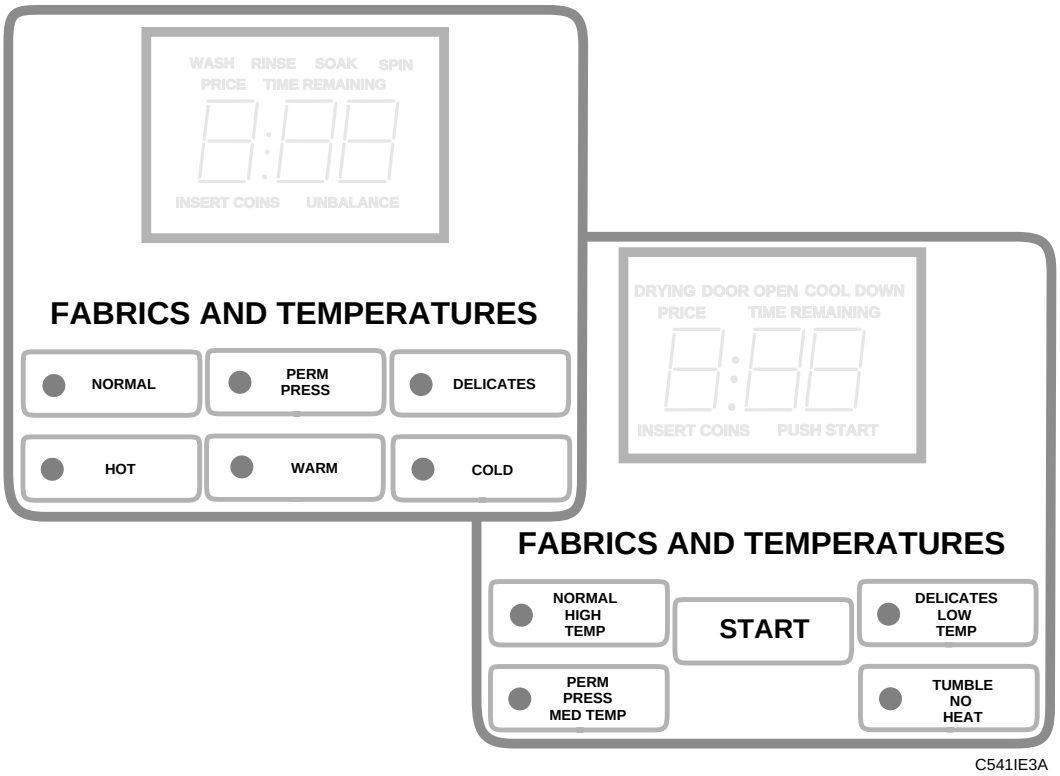
Electronic Control

Washer and Dryer Troubleshooting Guide

Model numbers in this manual are shown on Page 2.



C541IE3A

Troubleshooting

Alliance Laundry Systems

Part No. 36528R2
April 1999

WARNING

- **Failure to install, maintain, and/or operate this product according to the manufacturer's instructions may result in conditions which can produce serious injury, death and/or property damage.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and that you understand and have the skills to carry out.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury, or death.**

W006R1

WARNING

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you, or the inexperienced person making such repairs, to the risk of serious injury, electrical shock, or death.

W007

CAUTION

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.

NOTE: The WARNINGS and IMPORTANT INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors which CANNOT be built into these products. These factors MUST BE supplied by the person(s) installing, maintaining or operating the product.

Always contact your dealer, distributor, service agent or the manufacturer about any problems or conditions you do not understand.

Recognize Safety Symbols, Words and Labels

⚠DANGER - Immediate hazards which WILL result in serious injury or death.

⚠WARNING - Hazards or unsafe practices which COULD result in serious injury or death.

⚠CAUTION - Hazards or unsafe practices which COULD result in minor or moderate injury or product or property damage.

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Model Identification

Information in this manual is applicable to these washer and dryer models:

WASHER MODELS	DRYER MODELS		
EAJ920	EEC290	HDE607	SSE507
EAJ921	EEC591	HDE707	SSE517
EA2820	EEJ907	HDG509	SSE607
EA2821	EE2807	HDG609	SSE707
EA2920	EE2907	HDG709	SSE717
EA2921	EE3807	HFE507	SSG409
EA3820	EE3907	HFE707	SSG419
EA3821	EE5807	HFG509	SSG509
EA3920	EE5817	HFG709	SSG519
EA3921	EE5907	HSE517	SSG609
EC2921	EE5917	HSE617	SSG709
HWT521	EE6807	HSE7U17	SSG719
HWT621	EE6817	HSG519	ZEC290
HWT721	EE6907	HSG619	ZEC591
SWT420	EE6917	HSG719	ZEJ907
SWT421	EGC290	SDE407	ZE2907
SWT520	EGC591	SDE507	ZE3807
SWT521	EGJ909	SDE607	ZE5917
SWT620	EG2809	SDE707	ZE6817
SWT621	EG2909	SDG409	ZGC290
SWT720	EG3809	SDG509	ZGC591
SWT721	EG3909	SDG609	ZGJ909
XA2820	EG5809	SDG709	ZG2909
XA2821	EG5819	SFE507	ZG3809
ZAJ920	EG5909	SFE607	ZG5919
ZAJ921	EG5919	SFE707	ZG6819
ZA2920	EG6809	SFG509	
ZA2921	EG6819	SFG609	
ZA3821	EG6909	SFG709	
ZC2921	EG6919	SSE407	
	HDE507	SSE417	

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NOTE: All voltage checks in this Troubleshooting Guide are 120 Volts. There should be little variation from this voltage range.

Section 1
Electronic Control Error Code Listing

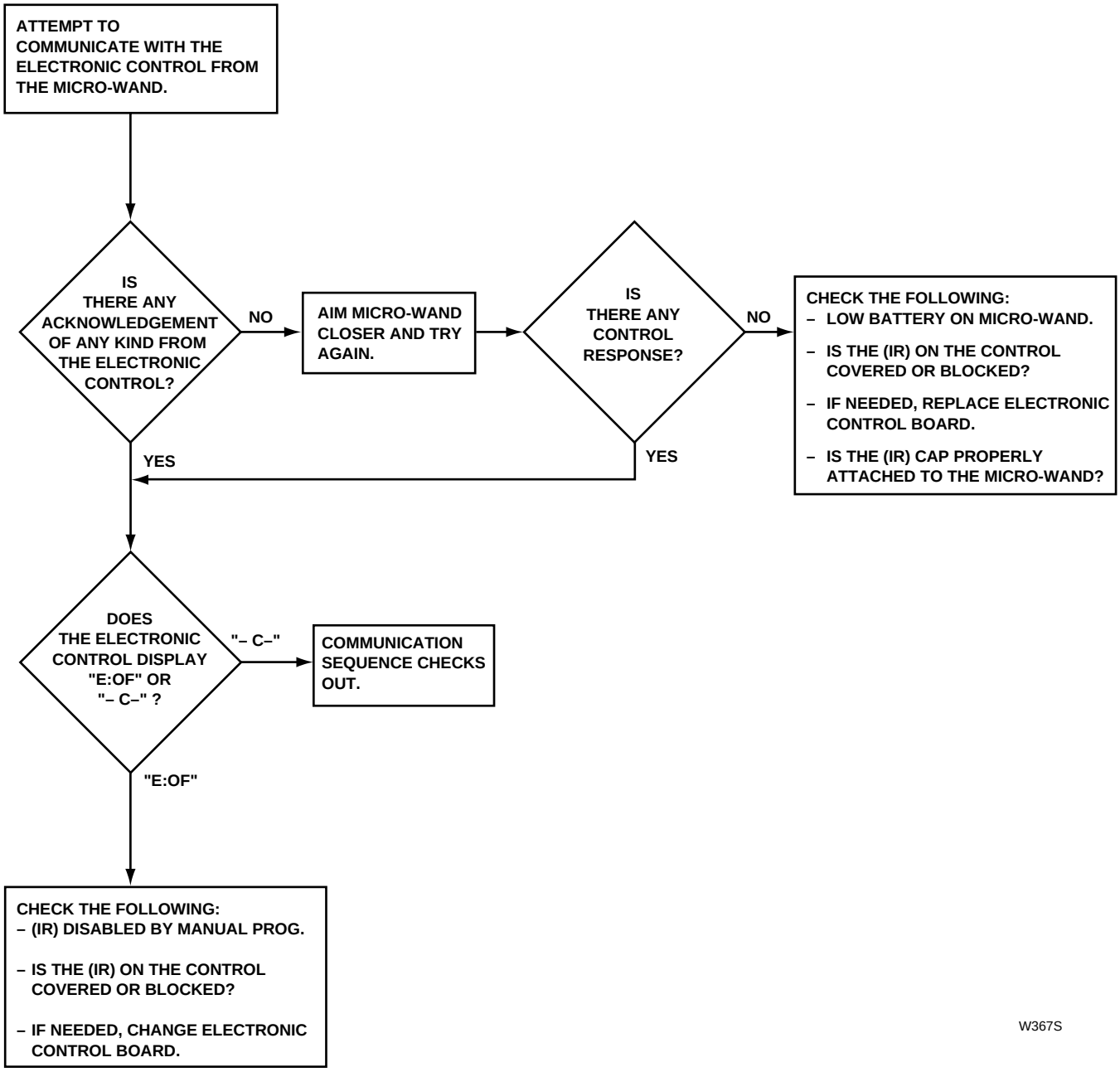
Listed below are some of the error codes that may appear on the Electronic Control.

“E:00”	General Error	
“E:01”	Proximity Error	Micro-wand IIIe is improperly aimed at Infrared communicator (angle or distance): Reaim Micro-wand IIIe.
“E:02”	IR Communication Disconnection	Micro-wand IIIe prematurely pulled away from Electronic Control during infrared communication: Maintain infrared connection between Micro-wand IIIe and Electronic Control during communication.
“E:05”	Invalid Value Communication	Invalid code downloaded from Micro-wand IIIe to Electronic Control:
“E:07”	Inoperative Control	Replace Electronic Control.
“E:08”	Inoperative Control	Replace Electronic Control.
“E:09”	Proximity Error	Micro-wand IIIe is improperly aimed at Infrared communicator (angle or distance): Reaim Micro-wand IIIe.
“E:0A”	Proximity Error	Micro-wand IIIe is improperly aimed at Infrared communicator (angle or distance): Reaim Micro-wand IIIe.
“E:0B”	IR Communication Disconnection	Micro-wand IIIe prematurely pulled away from Electronic Control during infrared communication: Maintain infrared connection between Micro-wand IIIe and Electronic Control during communication.
“E:0C”	IR Communication Disconnection	Micro-wand IIIe prematurely pulled away from Electronic Control during infrared communication: Maintain infrared connection between Micro-wand IIIe and Electronic Control during communication.
“E:0d”	Pressure Switch Error	1. Check fill and drain hoses for improper installation and kinks. 2. Check fill electrical circuit: Replace inoperative switches or wires.
“E:0F”	IR Communicator Programmed Off	Reprogram infrared communicator on.
“Err”	Coin Error	1. Inoperative coin sensor: Run the Coin Drop Diagnostic test. 2. Coin drop obstruction: Check coin drop area and remove any obstructions. 3. Customer tampering: Evaluate security procedures.
“OP”	Open Thermistor	Physical opening in the thermistor circuit: Change thermistor.
“SH”	Shorted Thermistor	Dead short in the thermistor circuit: Change thermistor.

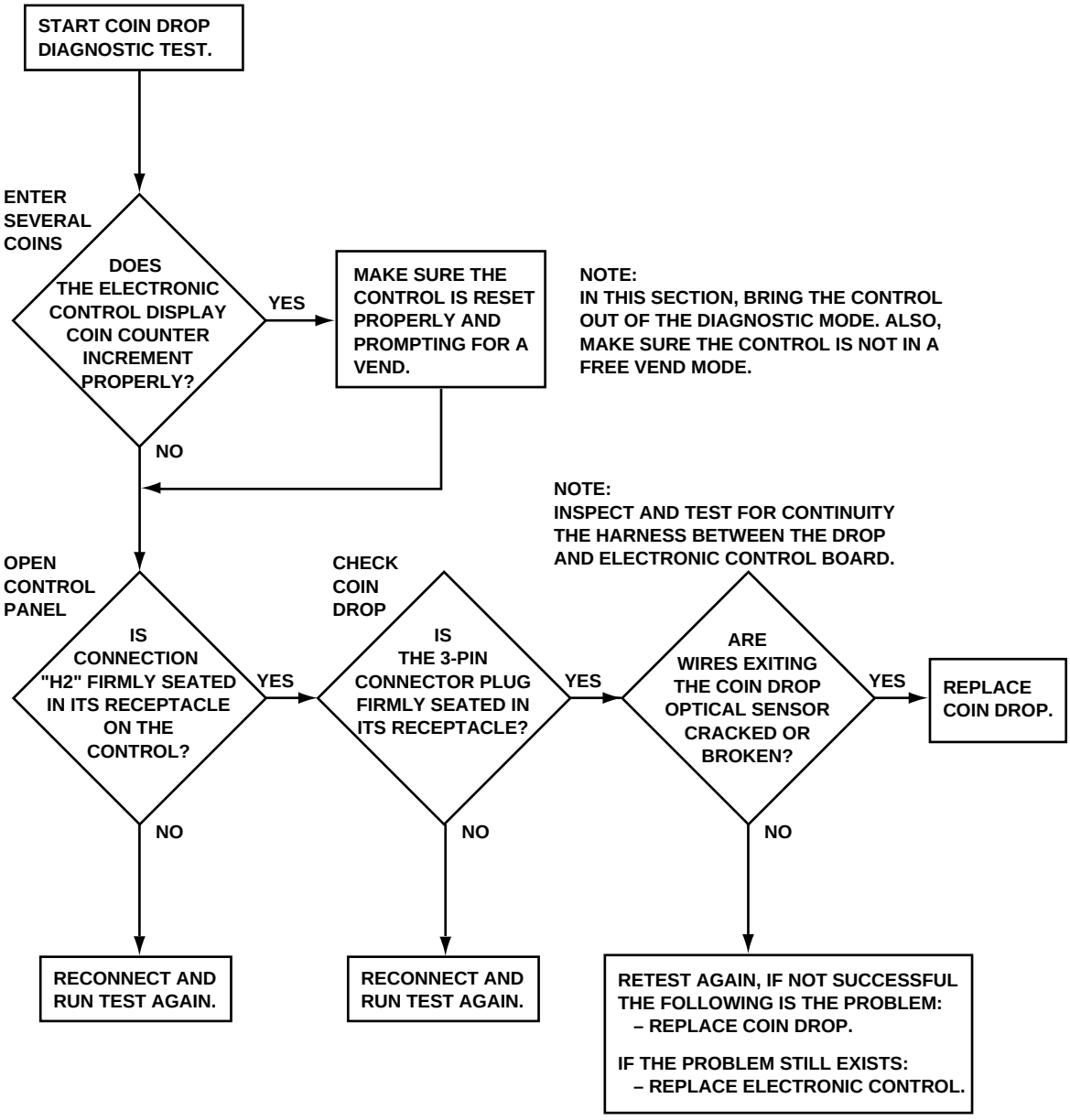
NOTE: Disconnecting power to the unit may clear the error display.

Section 2
Troubleshooting

CANNOT PERFORM INFRARED COMMUNICATION

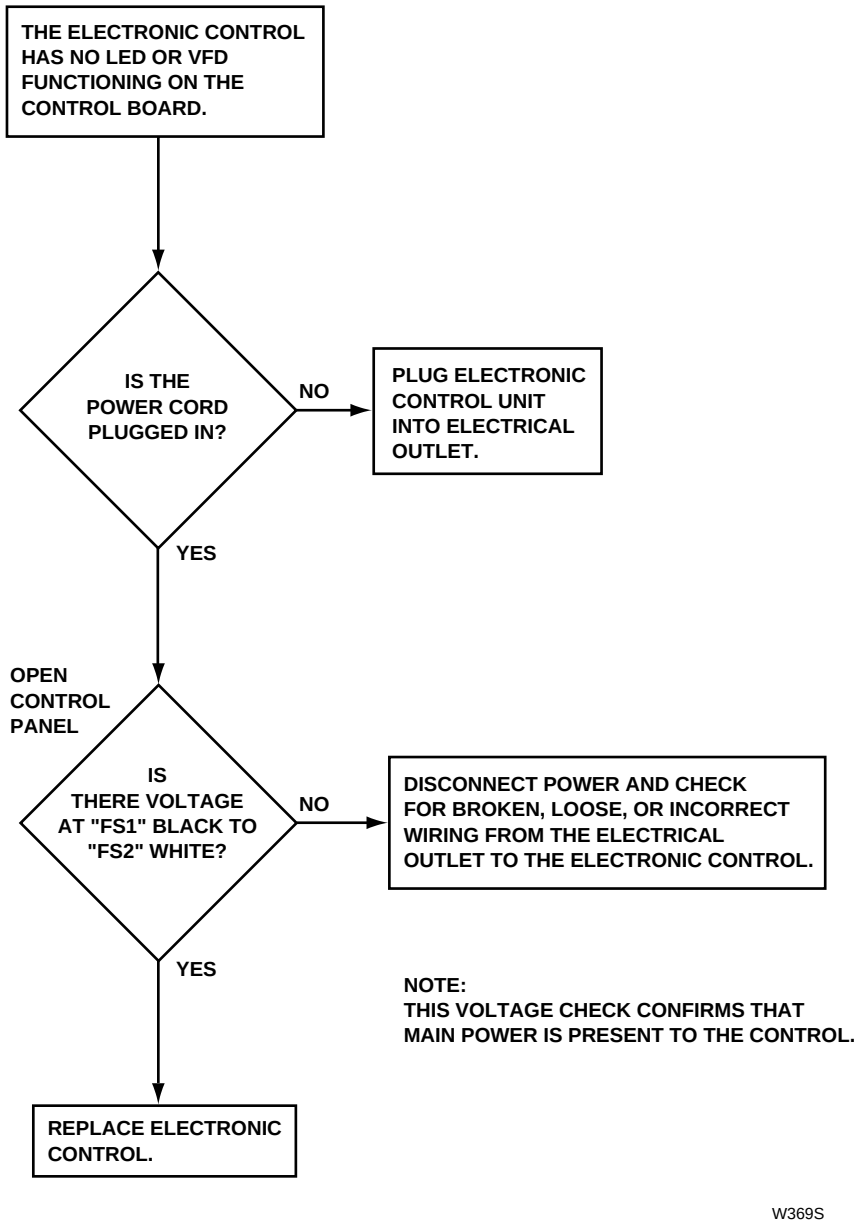

ATTEMPT TO COMMUNICATE WITH THE ELECTRONIC CONTROL FROM THE MICRO-WAND.
IS THERE ANY ACKNOWLEDGEMENT OF ANY KIND FROM THE ELECTRONIC CONTROL?
NO
AIM MICRO-WAND CLOSER AND TRY AGAIN.
IS THERE ANY CONTROL RESPONSE?
NO
CHECK THE FOLLOWING:
– LOW BATTERY ON MICRO-WAND.
– IS THE (IR) ON THE CONTROL COVERED OR BLOCKED?
– IF NEEDED, REPLACE ELECTRONIC CONTROL BOARD.
– IS THE (IR) CAP PROPERLY ATTACHED TO THE MICRO-WAND?
YES
YES
DOES THE ELECTRONIC CONTROL DISPLAY "E:OF" OR "– C–" ?
"– C–"
COMMUNICATION SEQUENCE CHECKS OUT.
"E:OF"
CHECK THE FOLLOWING:
– (IR) DISABLED BY MANUAL PROG.
– IS THE (IR) ON THE CONTROL COVERED OR BLOCKED?
– IF NEEDED, CHANGE ELECTRONIC CONTROL BOARD.
W367S

COINS IGNORED WHEN ENTERED

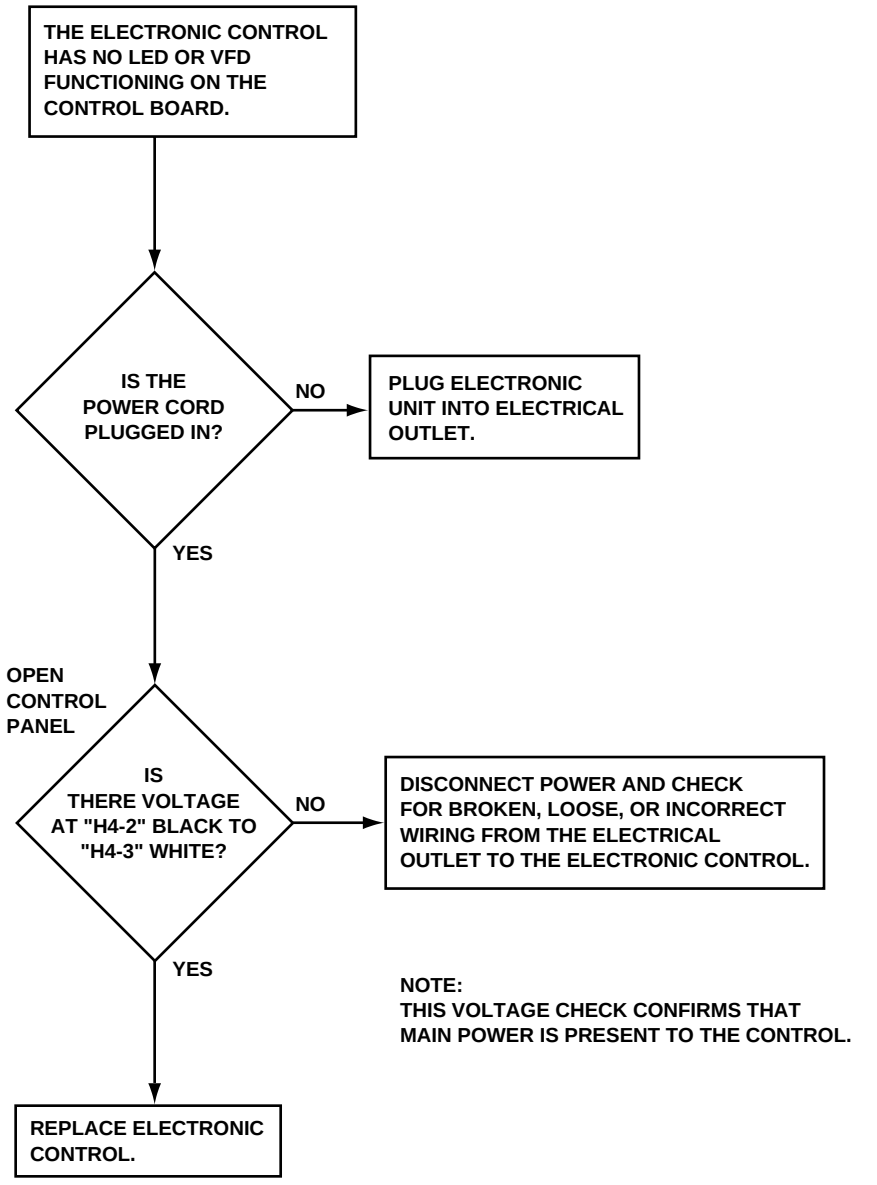

START COIN DROP DIAGNOSTIC TEST.
ENTER SEVERAL COINS
DOES THE ELECTRONIC CONTROL DISPLAY COIN COUNTER INCREMENT PROPERLY?
YES
MAKE SURE THE CONTROL IS RESET PROPERLY AND PROMPTING FOR A VEND.
NOTE: IN THIS SECTION, BRING THE CONTROL OUT OF THE DIAGNOSTIC MODE. ALSO, MAKE SURE THE CONTROL IS NOT IN A FREE VEND MODE.
NO
NOTE: INSPECT AND TEST FOR CONTINUITY THE HARNESS BETWEEN THE DROP AND ELECTRONIC CONTROL BOARD.
OPEN CONTROL PANEL
IS CONNECTION "H2" FIRMLY SEATED IN ITS RECEPTACLE ON THE CONTROL?
YES
CHECK COIN DROP
IS THE 3-PIN CONNECTOR PLUG FIRMLY SEATED IN ITS RECEPTACLE?
YES
ARE WIRES EXITING THE COIN DROP OPTICAL SENSOR CRACKED OR BROKEN?
YES
REPLACE COIN DROP.
NO
RECONNECT AND RUN TEST AGAIN.
NO
RECONNECT AND RUN TEST AGAIN.
NO
RETEST AGAIN, IF NOT SUCCESSFUL THE FOLLOWING IS THE PROBLEM:
– REPLACE COIN DROP.
IF THE PROBLEM STILL EXISTS:
– REPLACE ELECTRONIC CONTROL.

W368S

ELECTRONIC CONTROL HAS NO VISIBLE DISPLAY

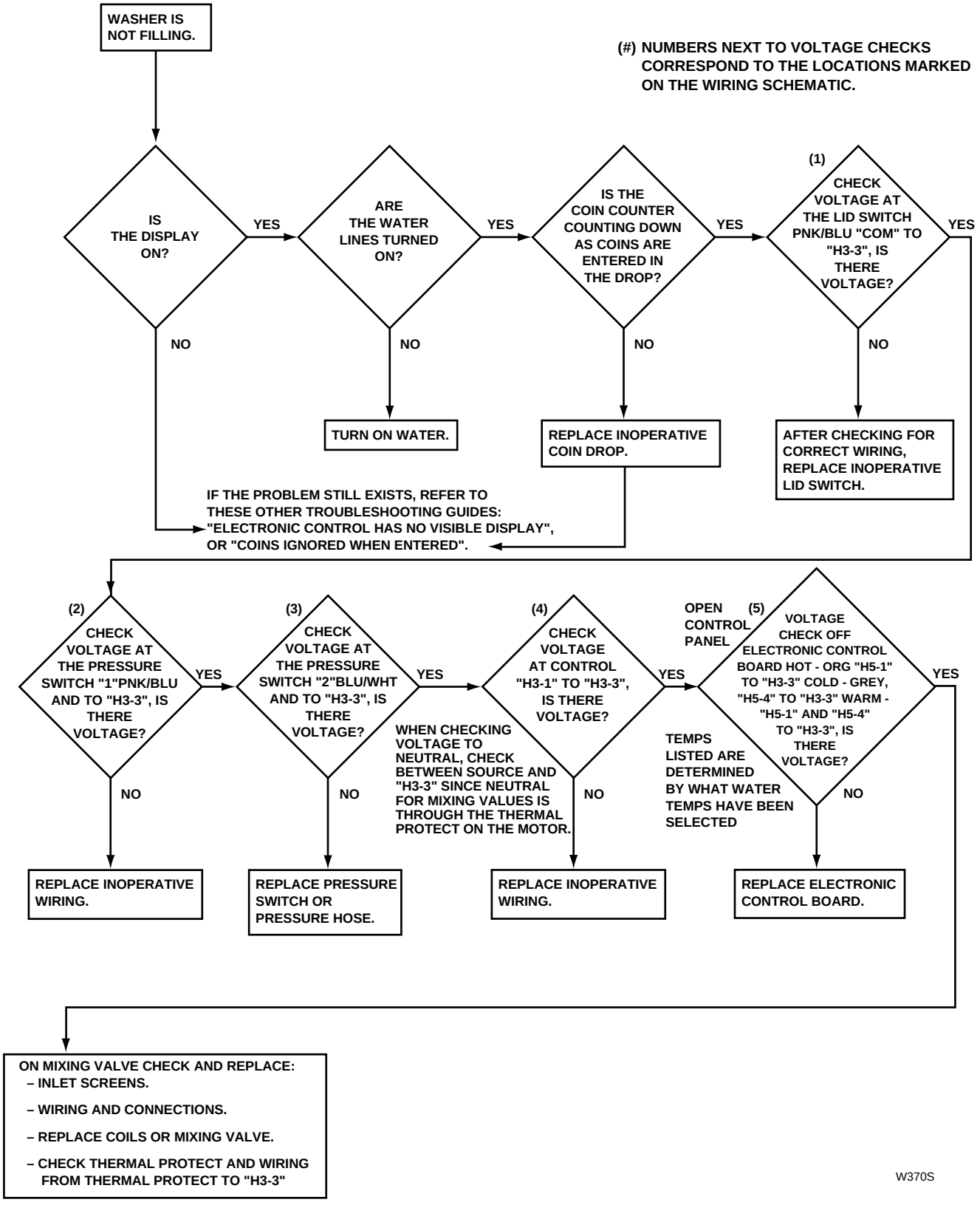

THE ELECTRONIC CONTROL HAS NO LED OR VFD FUNCTIONING ON THE CONTROL BOARD.
IS THE POWER CORD PLUGGED IN?
NO
PLUG ELECTRONIC CONTROL UNIT INTO ELECTRICAL OUTLET.
YES
OPEN CONTROL PANEL
IS THERE VOLTAGE AT "FS1" BLACK TO "FS2" WHITE?
NO
DISCONNECT POWER AND CHECK FOR BROKEN, LOOSE, OR INCORRECT WIRING FROM THE ELECTRICAL OUTLET TO THE ELECTRONIC CONTROL.
YES
NOTE:
THIS VOLTAGE CHECK CONFIRMS THAT MAIN POWER IS PRESENT TO THE CONTROL.
REPLACE ELECTRONIC CONTROL.
W369S

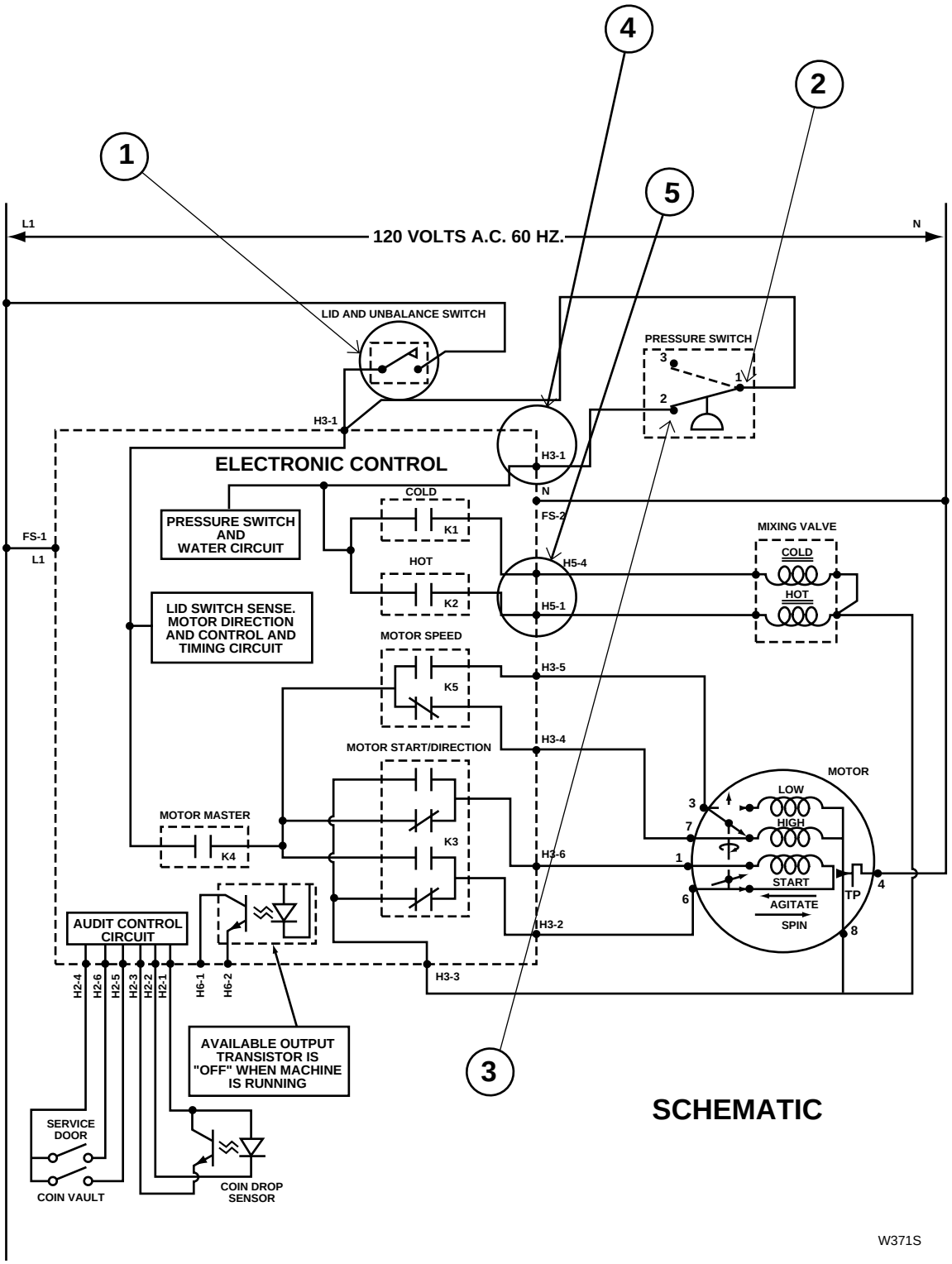
ELECTRONIC CONTROL HAS NO VISIBLE DISPLAY


THE ELECTRONIC CONTROL HAS NO LED OR VFD FUNCTIONING ON THE CONTROL BOARD.
IS THE POWER CORD PLUGGED IN?
NO
PLUG ELECTRONIC UNIT INTO ELECTRICAL OUTLET.
YES
OPEN CONTROL PANEL
IS THERE VOLTAGE AT "H4-2" BLACK TO "H4-3" WHITE?
NO
DISCONNECT POWER AND CHECK FOR BROKEN, LOOSE, OR INCORRECT WIRING FROM THE ELECTRICAL OUTLET TO THE ELECTRONIC CONTROL.
YES
NOTE:
THIS VOLTAGE CHECK CONFIRMS THAT MAIN POWER IS PRESENT TO THE CONTROL.
REPLACE ELECTRONIC CONTROL.

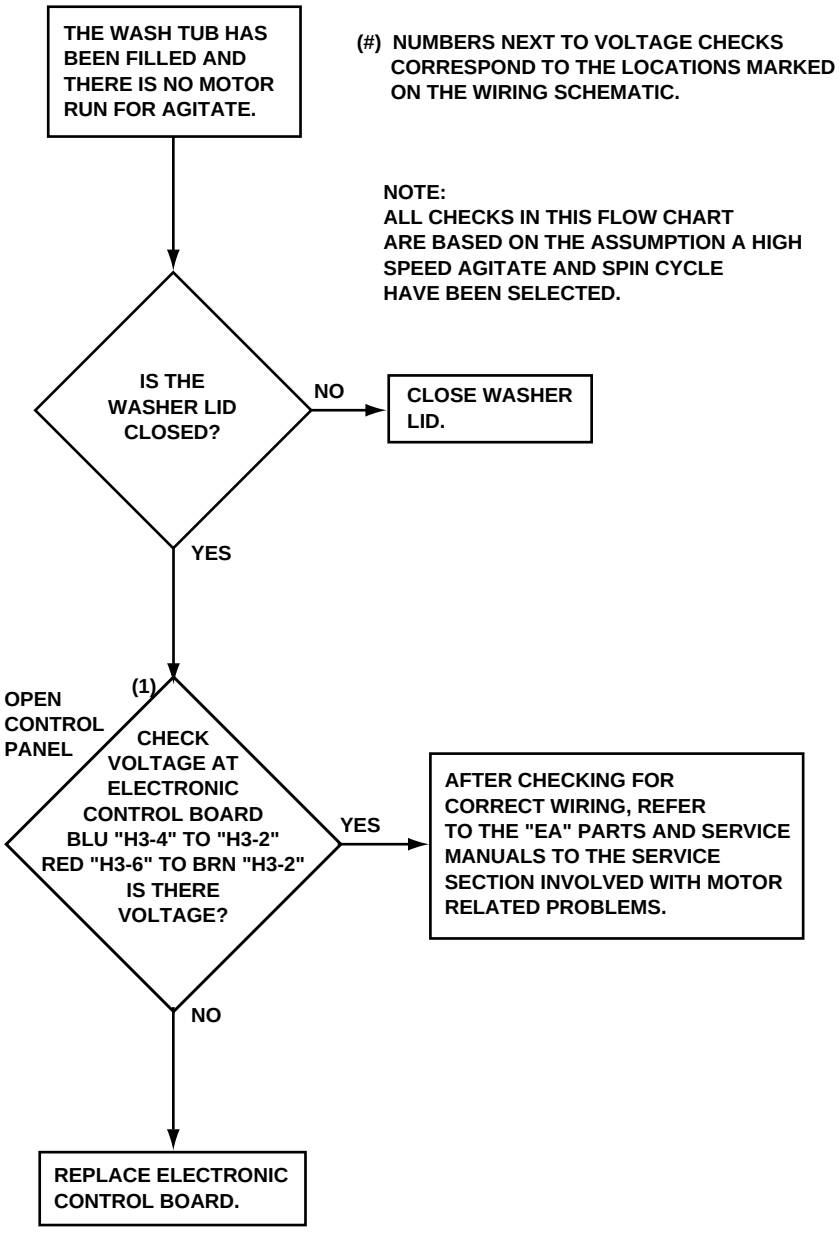
D203S

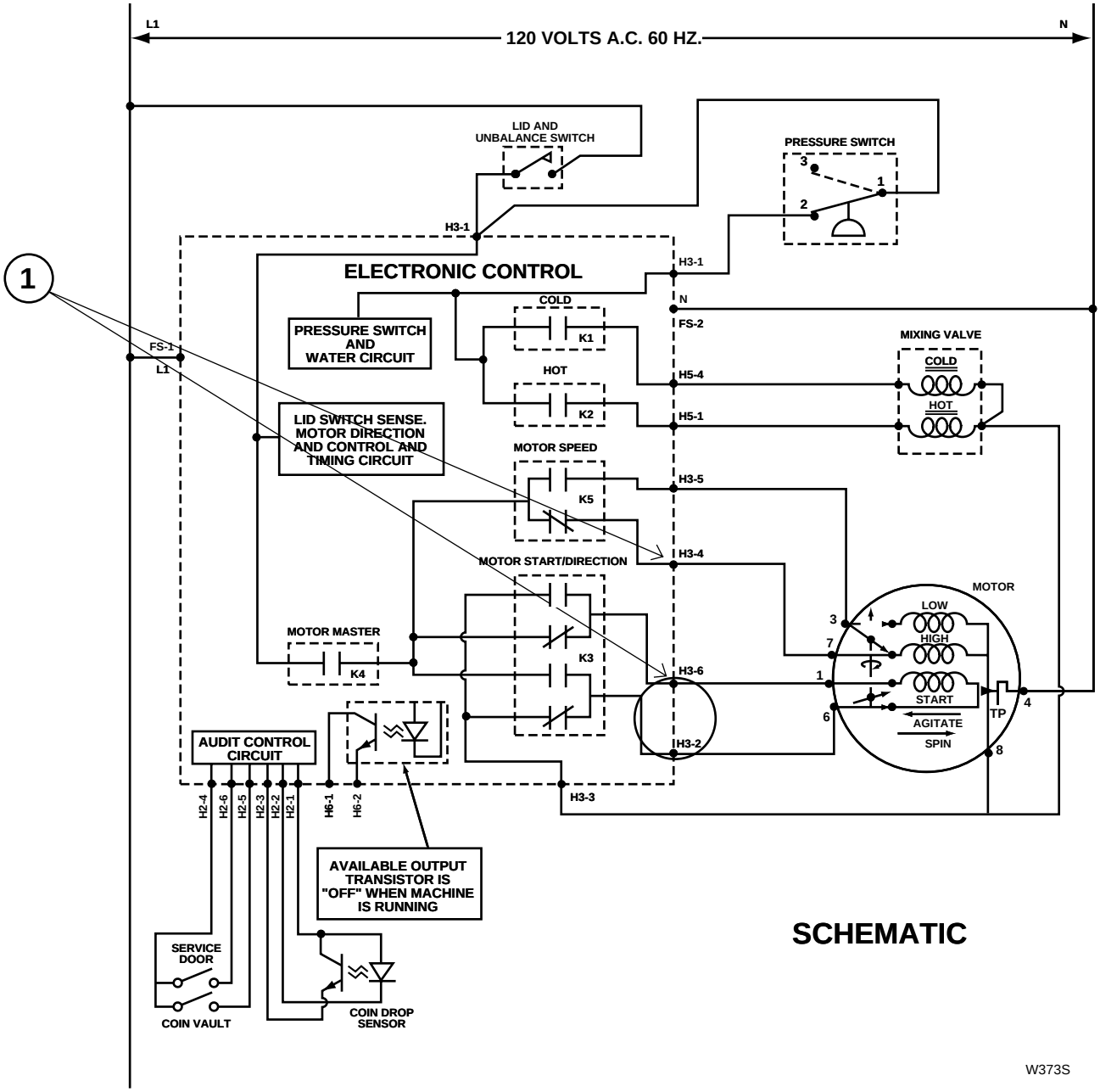
NO FILL ANALYSIS


WASHER IS NOT FILLING.
(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
IS THE DISPLAY ON?
YES
ARE THE WATER LINES TURNED ON?
YES
IS THE COIN COUNTER COUNTING DOWN AS COINS ARE ENTERED IN THE DROP?
YES
(1)
CHECK VOLTAGE AT THE LID SWITCH PNK/BLU "COM" TO "H3-3", IS THERE VOLTAGE?
YES
NO
NO
NO
NO
TURN ON WATER.
REPLACE INOPERATIVE COIN DROP.
AFTER CHECKING FOR CORRECT WIRING, REPLACE INOPERATIVE LID SWITCH.
IF THE PROBLEM STILL EXISTS, REFER TO THESE OTHER TROUBLESHOOTING GUIDES: "ELECTRONIC CONTROL HAS NO VISIBLE DISPLAY", OR "COINS IGNORED WHEN ENTERED".
(2)
CHECK VOLTAGE AT THE PRESSURE SWITCH "1"PNK/BLU AND TO "H3-3", IS THERE VOLTAGE?
YES
(3)
CHECK VOLTAGE AT THE PRESSURE SWITCH "2"BLU/WHT AND TO "H3-3", IS THERE VOLTAGE?
YES
(4)
CHECK VOLTAGE AT CONTROL "H3-1" TO "H3-3", IS THERE VOLTAGE?
YES
OPEN CONTROL PANEL
(5)
VOLTAGE CHECK OFF ELECTRONIC CONTROL BOARD HOT - ORG "H5-1" TO "H3-3" COLD - GREY, "H5-4" TO "H3-3" WARM - "H5-1" AND "H5-4" TO "H3-3", IS THERE VOLTAGE?
YES
NO
NO
NO
NO
WHEN CHECKING VOLTAGE TO NEUTRAL, CHECK BETWEEN SOURCE AND "H3-3" SINCE NEUTRAL FOR MIXING VALUES IS THROUGH THE THERMAL PROTECT ON THE MOTOR.
TEMPS LISTED ARE DETERMINED BY WHAT WATER TEMPS HAVE BEEN SELECTED
REPLACE INOPERATIVE WIRING.
REPLACE PRESSURE SWITCH OR PRESSURE HOSE.
REPLACE INOPERATIVE WIRING.
REPLACE ELECTRONIC CONTROL BOARD.
ON MIXING VALVE CHECK AND REPLACE:
– INLET SCREENS.
– WIRING AND CONNECTIONS.
– REPLACE COILS OR MIXING VALVE.
– CHECK THERMAL PROTECT AND WIRING FROM THERMAL PROTECT TO "H3-3"
W370S

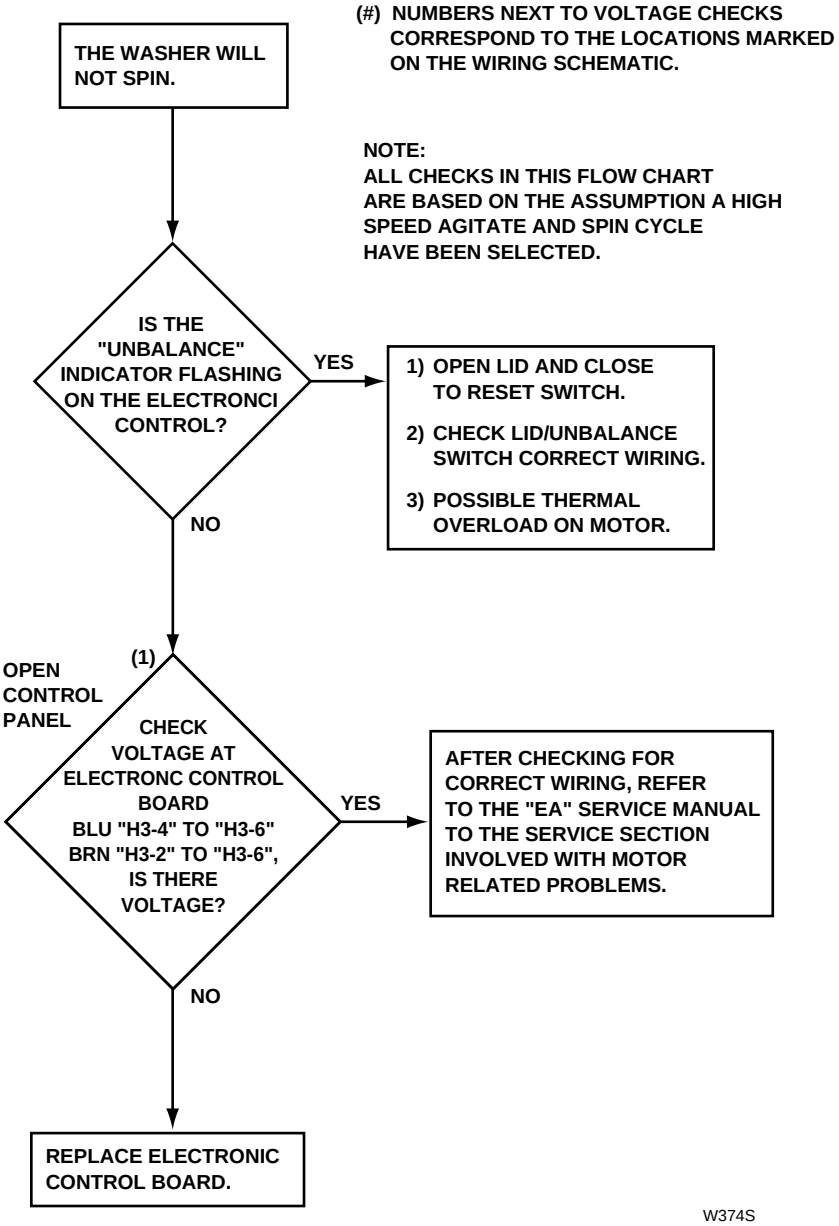

4
2
1
5
L1
120 VOLTS A.C. 60 HZ.
N
LID AND UNBALANCE SWITCH
PRESSURE SWITCH
3
1
2
H3-1
ELECTRONIC CONTROL
H3-1
N
COLD
K1
FS-2
PRESSURE SWITCH AND WATER CIRCUIT
MIXING VALVE
COLD
HOT
FS-1
L1
HOT
K2
H5-4
H5-1
LID SWITCH SENSE. MOTOR DIRECTION AND CONTROL AND TIMING CIRCUIT
MOTOR SPEED
K5
H3-5
H3-4
MOTOR START/DIRECTION
MOTOR
LOW
HIGH
START
AGITATE
SPIN
TP
MOTOR MASTER
K4
K3
H2-6
3
7
1
6
4
8
AUDIT CONTROL CIRCUIT
H3-2
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H6-1
H6-2
H3-3
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
3
SERVICE DOOR
COIN VAULT
COIN DROP SENSOR
SCHEMATIC
W371S

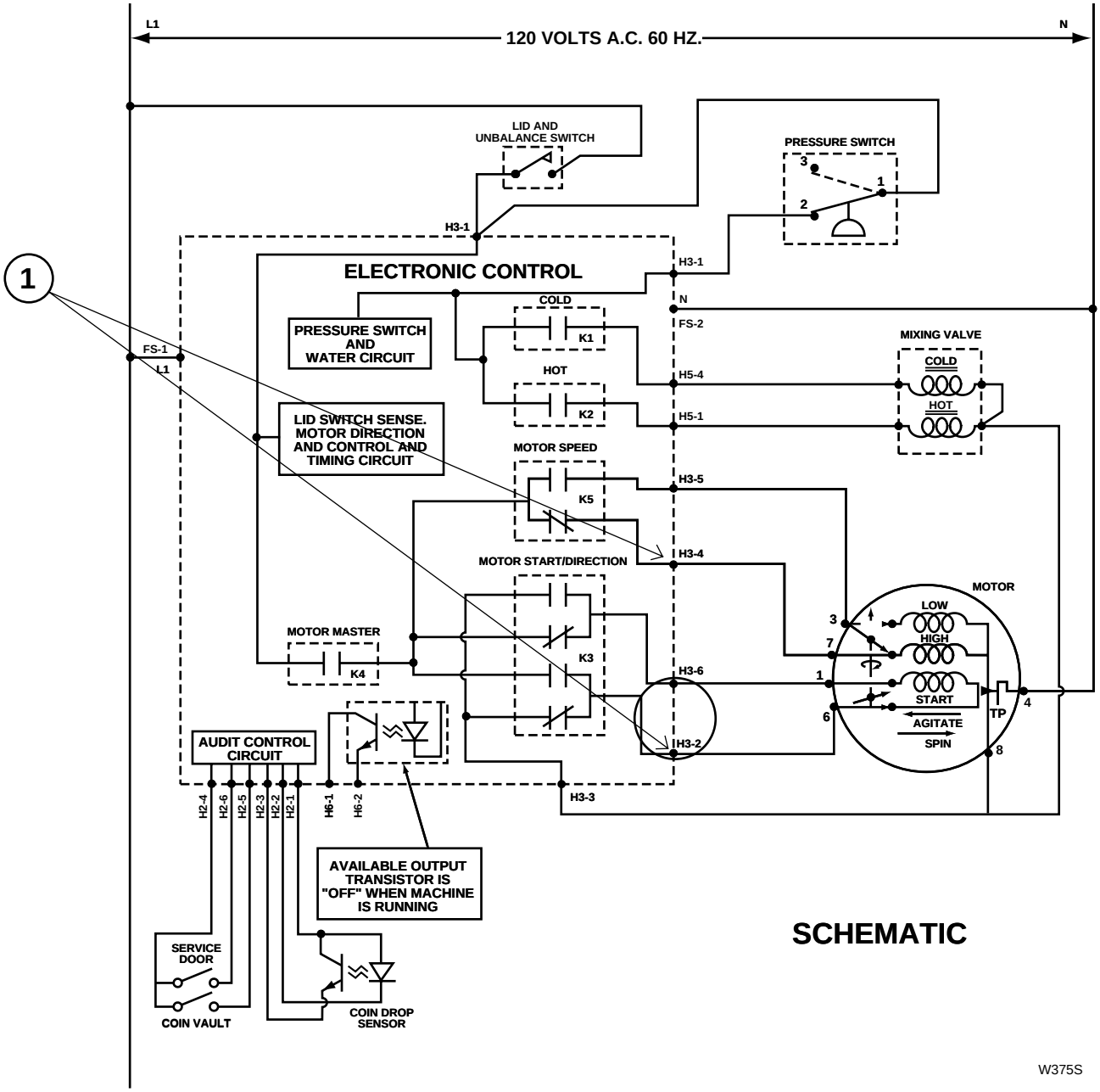
NO MOTOR RUN — AGITATE ANALYSIS


THE WASH TUB HAS BEEN FILLED AND THERE IS NO MOTOR RUN FOR AGITATE.
(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
NOTE:
ALL CHECKS IN THIS FLOW CHART ARE BASED ON THE ASSUMPTION A HIGH SPEED AGITATE AND SPIN CYCLE HAVE BEEN SELECTED.
IS THE WASHER LID CLOSED?
NO
CLOSE WASHER LID.
YES
(1)
OPEN CONTROL PANEL
CHECK VOLTAGE AT ELECTRONIC CONTROL BOARD BLU "H3-4" TO "H3-2" RED "H3-6" TO BRN "H3-2" IS THERE VOLTAGE?
YES
AFTER CHECKING FOR CORRECT WIRING, REFER TO THE "EA" PARTS AND SERVICE MANUALS TO THE SERVICE SECTION INVOLVED WITH MOTOR RELATED PROBLEMS.
NO
REPLACE ELECTRONIC CONTROL BOARD.
W372S

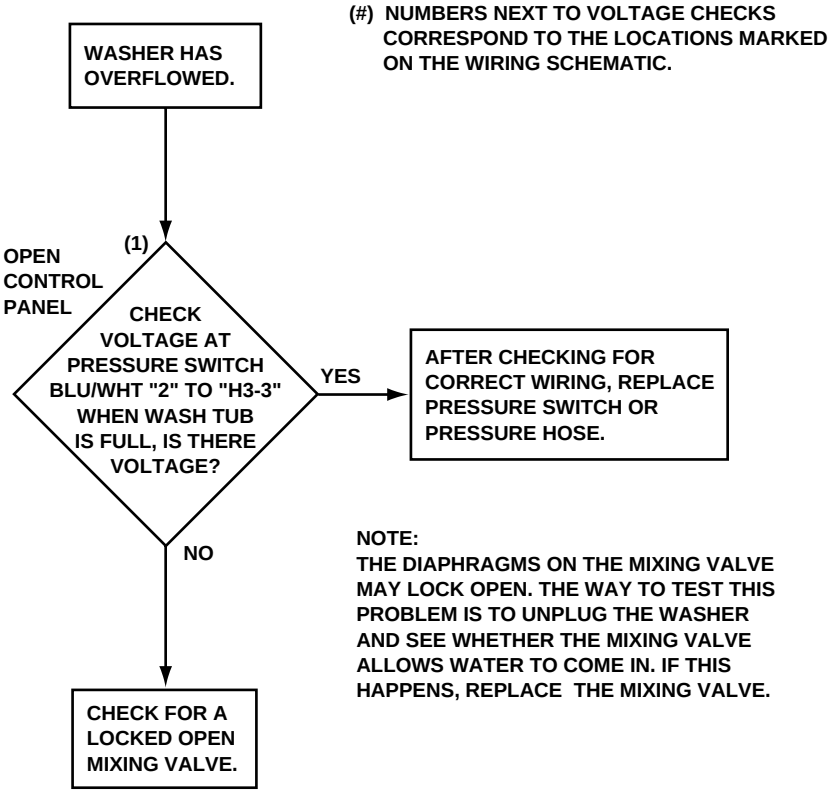

L1
120 VOLTS A.C. 60 HZ.
N
LID AND UNBALANCE SWITCH
PRESSURE SWITCH
3
1
2
H3-1
ELECTRONIC CONTROL
1
H3-1
COLD
N
FS-2
PRESSURE SWITCH AND WATER CIRCUIT
K1
MIXING VALVE
COLD
FS-1
L1
HOT
H5-4
HOT
K2
H5-1
LID SWITCH SENSE. MOTOR DIRECTION AND CONTROL AND TIMING CIRCUIT
MOTOR SPEED
H3-5
K5
H3-4
MOTOR START/DIRECTION
MOTOR
LOW
3
HIGH
7
MOTOR MASTER
K3
H3-6
1
START
K4
6
TP
4
AUDIT CONTROL CIRCUIT
AGITATE
SPIN
8
H3-2
H3-3
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H6-1
H6-2
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
SERVICE DOOR
COIN VAULT
COIN DROP SENSOR
SCHEMATIC
W373S

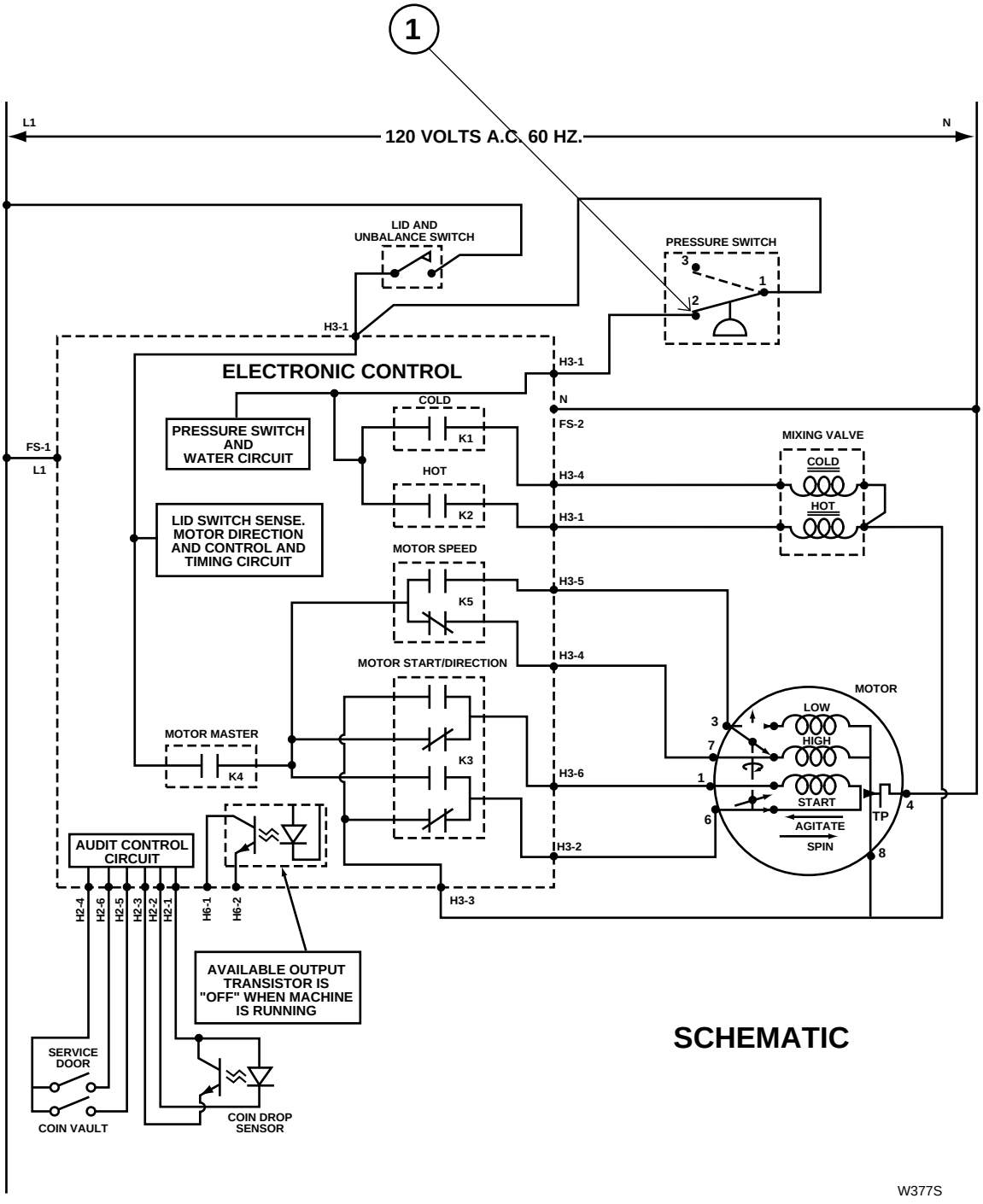
NO MOTOR RUN — SPIN ANALYSIS


(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
THE WASHER WILL NOT SPIN.
NOTE:
ALL CHECKS IN THIS FLOW CHART ARE BASED ON THE ASSUMPTION A HIGH SPEED AGITATE AND SPIN CYCLE HAVE BEEN SELECTED.
IS THE "UNBALANCE" INDICATOR FLASHING ON THE ELECTRONCI CONTROL?
YES
1) OPEN LID AND CLOSE TO RESET SWITCH.
2) CHECK LID/UNBALANCE SWITCH CORRECT WIRING.
3) POSSIBLE THERMAL OVERLOAD ON MOTOR.
NO
(1)
OPEN CONTROL PANEL
CHECK VOLTAGE AT ELECTRONC CONTROL BOARD BLU "H3-4" TO "H3-6" BRN "H3-2" TO "H3-6", IS THERE VOLTAGE?
YES
AFTER CHECKING FOR CORRECT WIRING, REFER TO THE "EA" SERVICE MANUAL TO THE SERVICE SECTION INVOLVED WITH MOTOR RELATED PROBLEMS.
NO
REPLACE ELECTRONIC CONTROL BOARD.
W374S

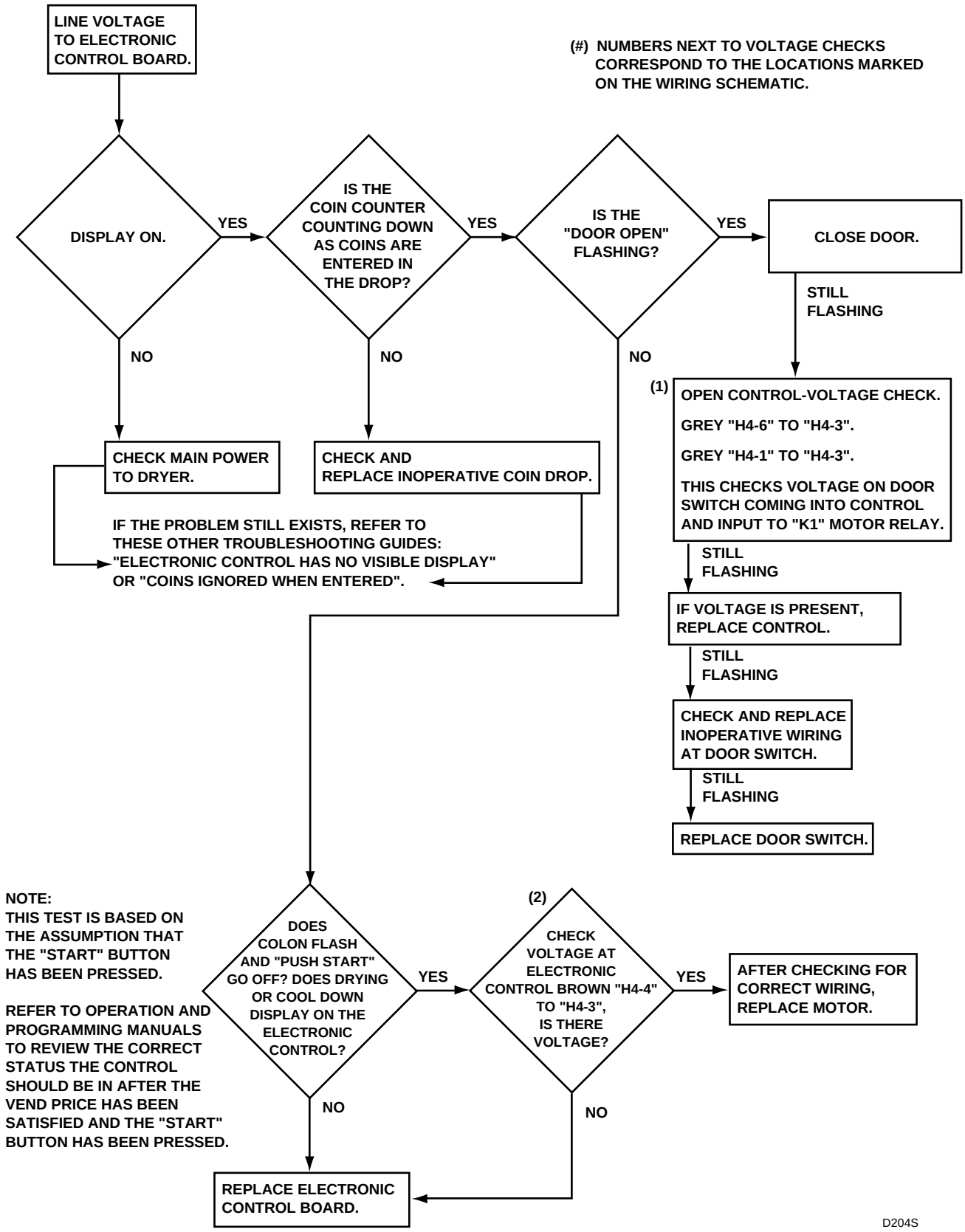

L1
120 VOLTS A.C. 60 HZ.
N
LID AND UNBALANCE SWITCH
PRESSURE SWITCH
H3-1
ELECTRONIC CONTROL
1
COLD
K1
HOT
K2
PRESSURE SWITCH AND WATER CIRCUIT
FS-1
L1
LID SWITCH SENSE. MOTOR DIRECTION AND CONTROL AND TIMING CIRCUIT
MOTOR SPEED
K5
MOTOR START/DIRECTION
K3
MOTOR MASTER
K4
AUDIT CONTROL CIRCUIT
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H6-1
H6-2
H3-3
H3-2
H3-4
H3-5
H3-6
H5-4
H5-1
FS-2
MIXING VALVE
MOTOR
LOW
HIGH
START
AGITATE
SPIN
TP
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
SERVICE DOOR
COIN VAULT
COIN DROP SENSOR
SCHEMATIC
W375S

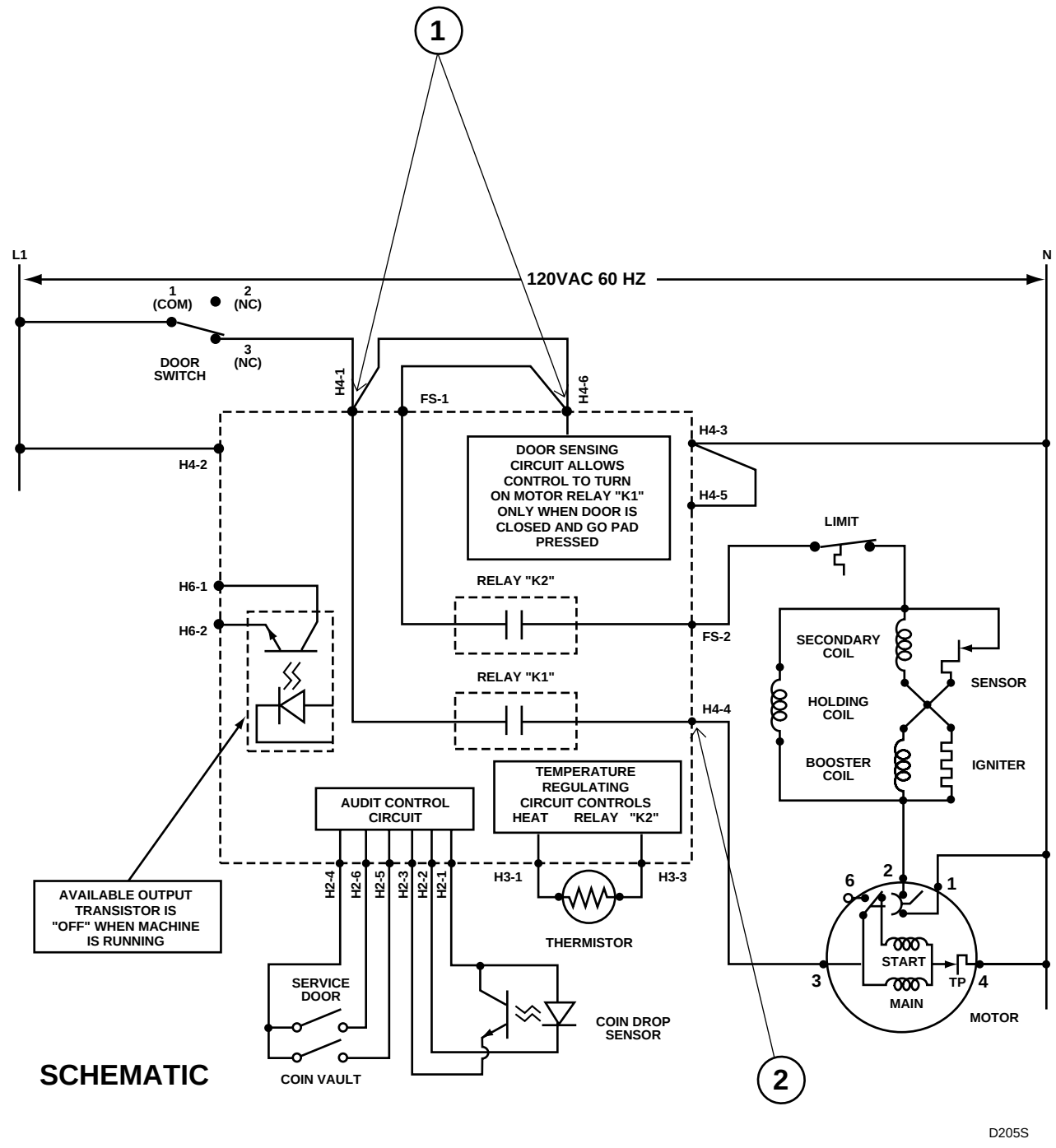
OVERFLOW ANALYSIS


(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
WASHER HAS OVERFLOWED.
(1)
OPEN CONTROL PANEL
CHECK VOLTAGE AT PRESSURE SWITCH BLU/WHT "2" TO "H3-3" WHEN WASH TUB IS FULL, IS THERE VOLTAGE?
YES
AFTER CHECKING FOR CORRECT WIRING, REPLACE PRESSURE SWITCH OR PRESSURE HOSE.
NO
CHECK FOR A LOCKED OPEN MIXING VALVE.
NOTE:
THE DIAPHRAGMS ON THE MIXING VALVE MAY LOCK OPEN. THE WAY TO TEST THIS PROBLEM IS TO UNPLUG THE WASHER AND SEE WHETHER THE MIXING VALVE ALLOWS WATER TO COME IN. IF THIS HAPPENS, REPLACE THE MIXING VALVE.
W376S

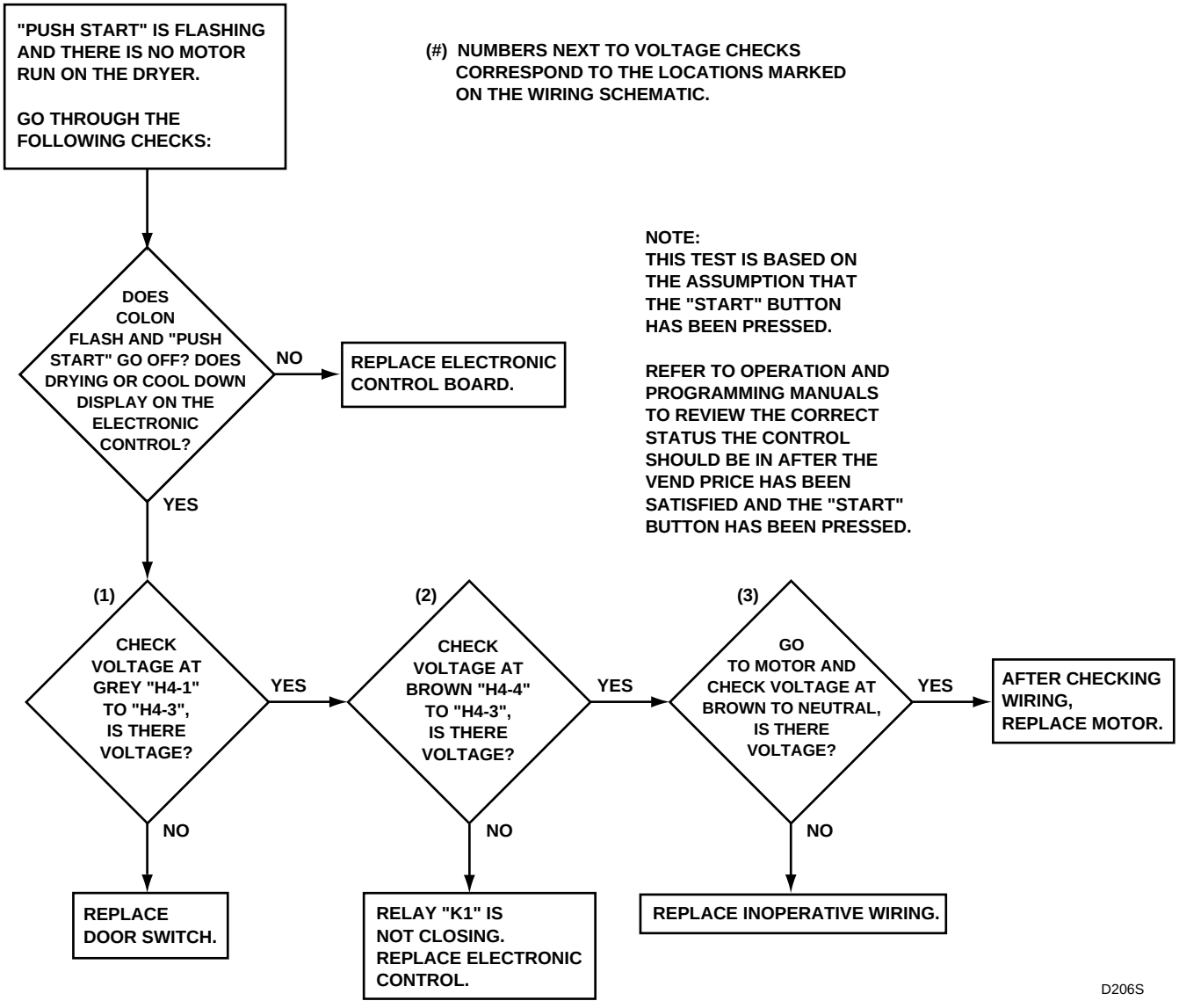

1
L1
120 VOLTS A.C. 60 HZ.
N
LID AND
UNBALANCE SWITCH
PRESSURE SWITCH
3
1
2
H3-1
ELECTRONIC CONTROL
H3-1
COLD
N
PRESSURE SWITCH
AND
WATER CIRCUIT
K1
FS-2
MIXING VALVE
FS-1
L1
HOT
H3-4
COLD
HOT
K2
H3-1
LID SWITCH SENSE.
MOTOR DIRECTION
AND CONTROL AND
TIMING CIRCUIT
MOTOR SPEED
H3-5
K5
H3-4
MOTOR START/DIRECTION
MOTOR
LOW
HIGH
START
AGITATE
SPIN
TP
MOTOR MASTER
K4
K3
H3-6
3
7
1
6
4
8
AUDIT CONTROL
CIRCUIT
H3-2
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H6-1
H6-2
H3-3
AVAILABLE OUTPUT
TRANSISTOR IS
"OFF" WHEN MACHINE
IS RUNNING
SERVICE
DOOR
COIN VAULT
COIN DROP
SENSOR
SCHEMATIC
W377S

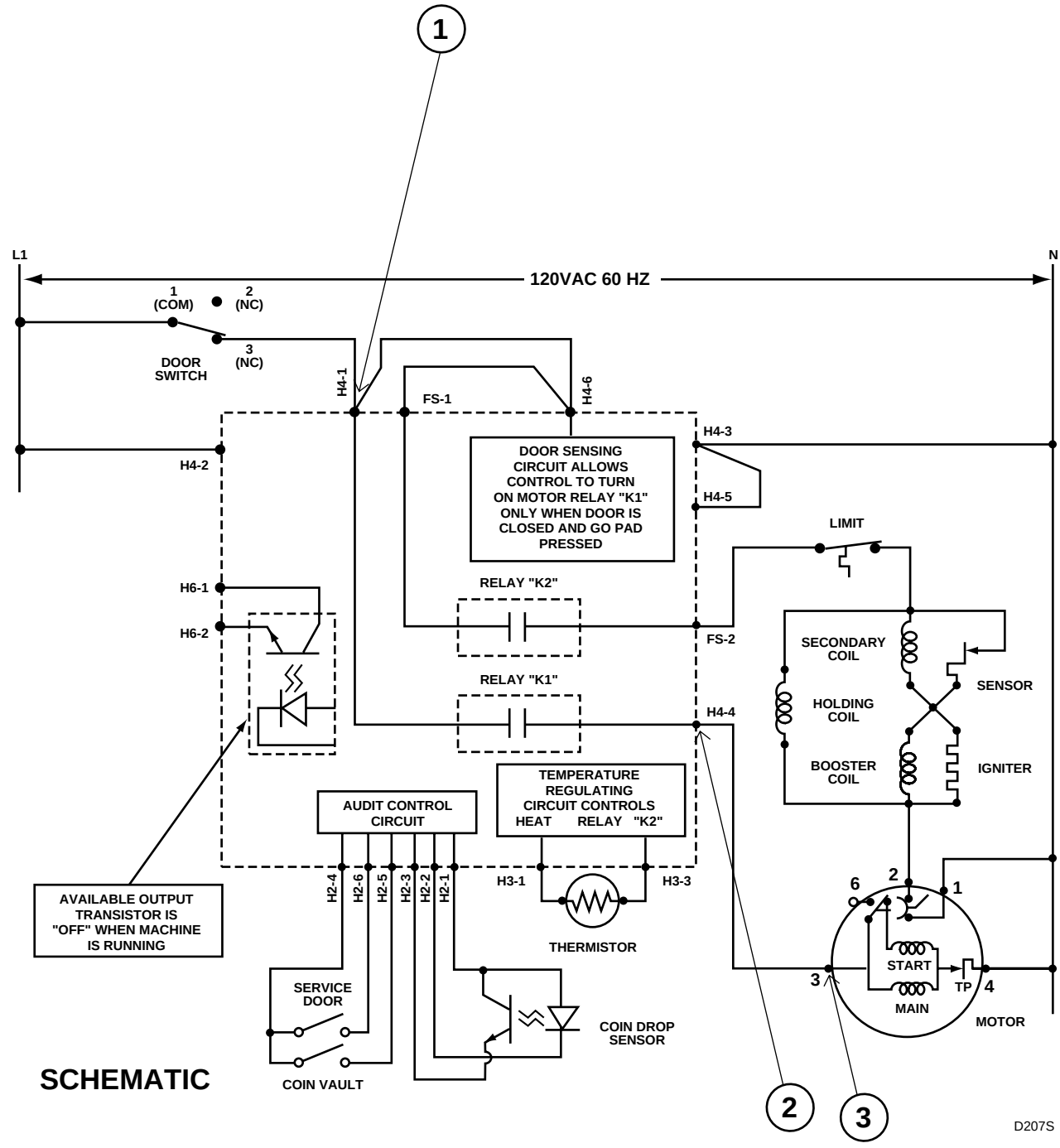
NO MOTOR RUN — “DOOR OPEN” ANALYSIS


LINE VOLTAGE TO ELECTRONIC CONTROL BOARD.
(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
DISPLAY ON.
YES
IS THE COIN COUNTER COUNTING DOWN AS COINS ARE ENTERED IN THE DROP?
YES
IS THE "DOOR OPEN" FLASHING?
YES
CLOSE DOOR.
STILL FLASHING
NO
NO
NO
(1)
OPEN CONTROL-VOLTAGE CHECK.
GREY "H4-6" TO "H4-3".
GREY "H4-1" TO "H4-3".
THIS CHECKS VOLTAGE ON DOOR SWITCH COMING INTO CONTROL AND INPUT TO "K1" MOTOR RELAY.
STILL FLASHING
IF VOLTAGE IS PRESENT, REPLACE CONTROL.
STILL FLASHING
CHECK AND REPLACE INOPERATIVE WIRING AT DOOR SWITCH.
STILL FLASHING
REPLACE DOOR SWITCH.
CHECK MAIN POWER TO DRYER.
CHECK AND REPLACE INOPERATIVE COIN DROP.
IF THE PROBLEM STILL EXISTS, REFER TO THESE OTHER TROUBLESHOOTING GUIDES: "ELECTRONIC CONTROL HAS NO VISIBLE DISPLAY" OR "COINS IGNORED WHEN ENTERED".
NOTE:
THIS TEST IS BASED ON THE ASSUMPTION THAT THE "START" BUTTON HAS BEEN PRESSED.
REFER TO OPERATION AND PROGRAMMING MANUALS TO REVIEW THE CORRECT STATUS THE CONTROL SHOULD BE IN AFTER THE VEND PRICE HAS BEEN SATISFIED AND THE "START" BUTTON HAS BEEN PRESSED.
DOES COLON FLASH AND "PUSH START" GO OFF? DOES DRYING OR COOL DOWN DISPLAY ON THE ELECTRONIC CONTROL?
YES
(2)
CHECK VOLTAGE AT ELECTRONIC CONTROL BROWN "H4-4" TO "H4-3", IS THERE VOLTAGE?
YES
AFTER CHECKING FOR CORRECT WIRING, REPLACE MOTOR.
NO
NO
REPLACE ELECTRONIC CONTROL BOARD.
D204S

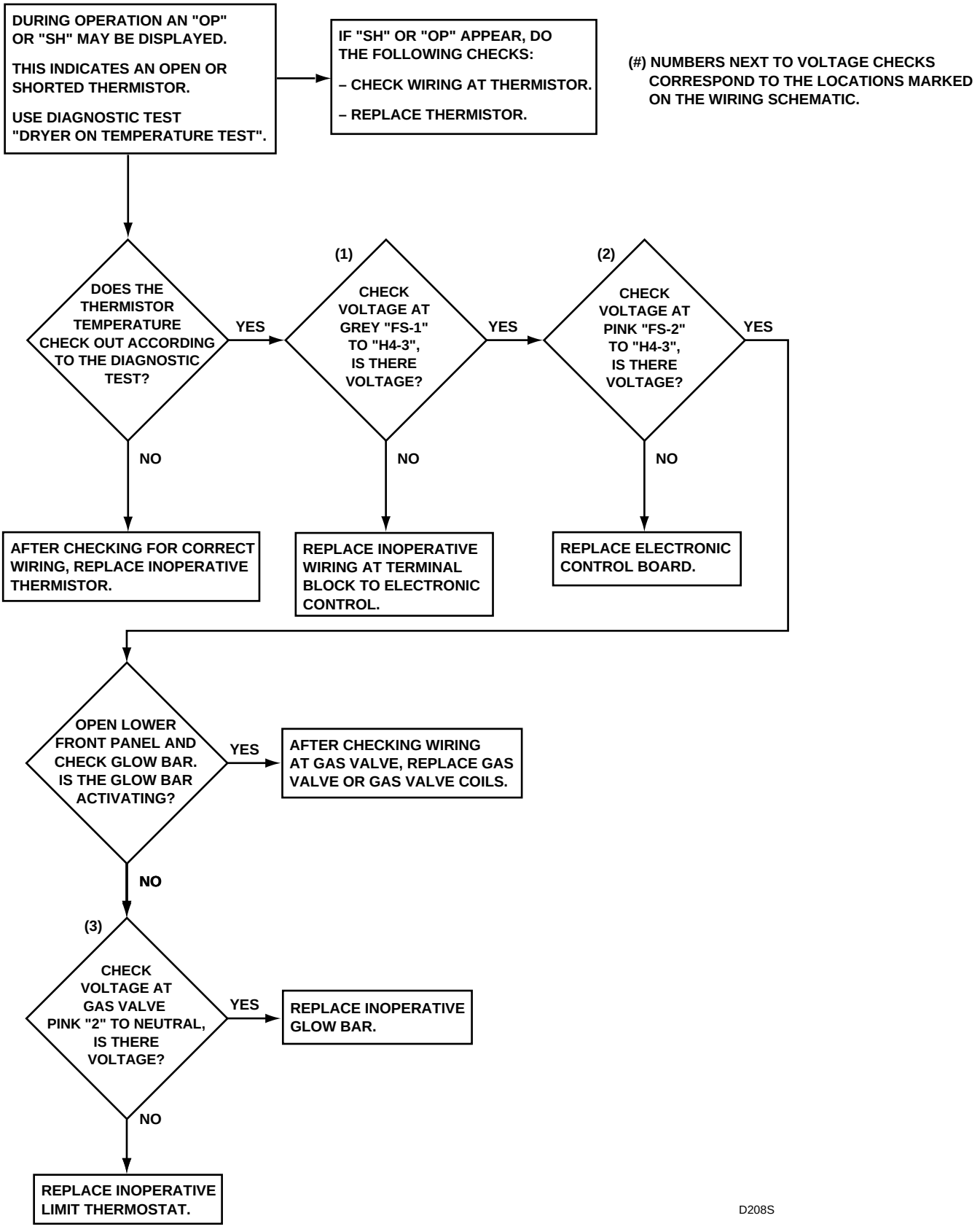

1
L1
N
120VAC 60 HZ
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
H4-6
FS-1
H4-2
H4-3
H4-5
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
LIMIT
H6-1
H6-2
RELAY "K2"
FS-2
SECONDARY COIL
SENSOR
HOLDING COIL
BOOSTER COIL
IGNITER
RELAY "K1"
H4-4
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
THERMISTOR
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
SERVICE DOOR
COIN DROP SENSOR
COIN VAULT
6
2
1
3
4
START
TP
MAIN
MOTOR
2
SCHEMATIC
D205S

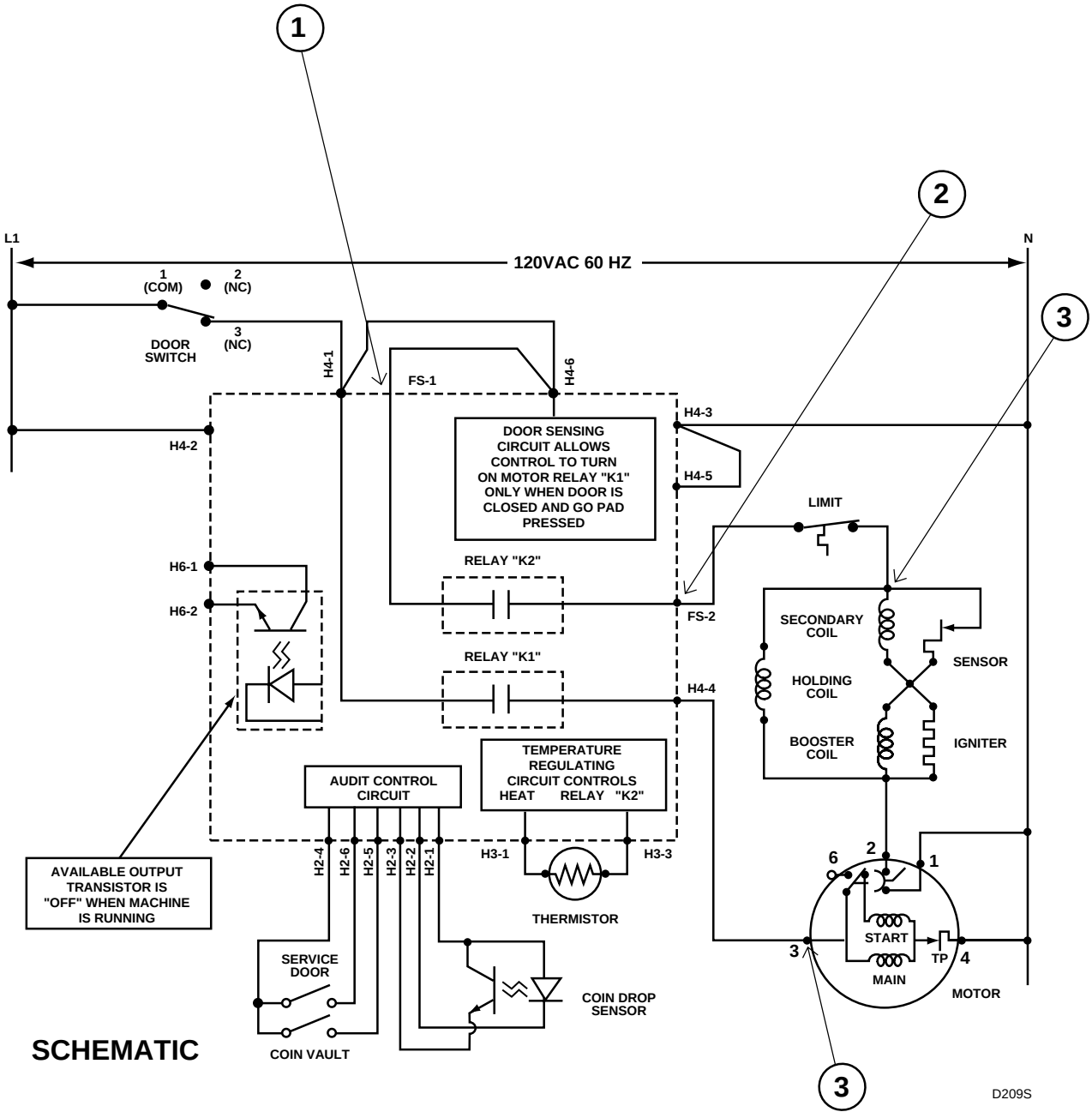
NO MOTOR RUN — “PUSH START” ANALYSIS


"PUSH START" IS FLASHING AND THERE IS NO MOTOR RUN ON THE DRYER.
GO THROUGH THE FOLLOWING CHECKS:
(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
NOTE:
THIS TEST IS BASED ON THE ASSUMPTION THAT THE "START" BUTTON HAS BEEN PRESSED.
REFER TO OPERATION AND PROGRAMMING MANUALS TO REVIEW THE CORRECT STATUS THE CONTROL SHOULD BE IN AFTER THE VEND PRICE HAS BEEN SATISFIED AND THE "START" BUTTON HAS BEEN PRESSED.
DOES COLON FLASH AND "PUSH START" GO OFF? DOES DRYING OR COOL DOWN DISPLAY ON THE ELECTRONIC CONTROL?
NO
REPLACE ELECTRONIC CONTROL BOARD.
YES
(1)
CHECK VOLTAGE AT GREY "H4-1" TO "H4-3", IS THERE VOLTAGE?
YES
(2)
CHECK VOLTAGE AT BROWN "H4-4" TO "H4-3", IS THERE VOLTAGE?
YES
(3)
GO TO MOTOR AND CHECK VOLTAGE AT BROWN TO NEUTRAL, IS THERE VOLTAGE?
YES
AFTER CHECKING WIRING, REPLACE MOTOR.
NO
REPLACE DOOR SWITCH.
NO
RELAY "K1" IS NOT CLOSING. REPLACE ELECTRONIC CONTROL.
NO
REPLACE INOPERATIVE WIRING.
D206S

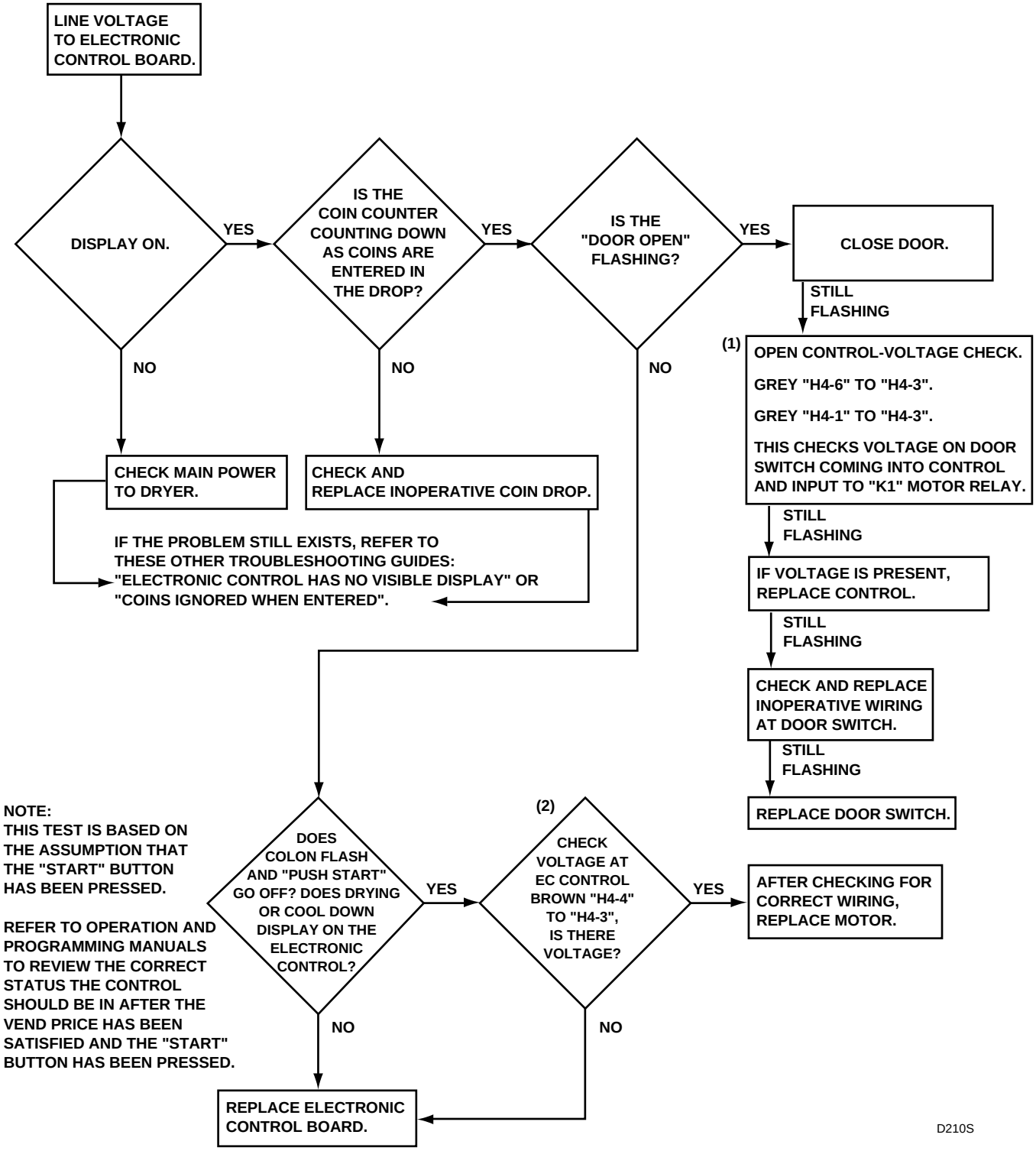

1
L1
N
120VAC 60 HZ
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
FS-1
H4-6
H4-2
H4-3
H4-5
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
LIMIT
H6-1
H6-2
RELAY "K2"
FS-2
SECONDARY COIL
SENSOR
HOLDING COIL
BOOSTER COIL
IGNITER
RELAY "K1"
H4-4
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
THERMISTOR
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
SERVICE DOOR
COIN DROP SENSOR
COIN VAULT
6
2
1
3
START
TP
4
MAIN
MOTOR
SCHEMATIC
2
3
D207S

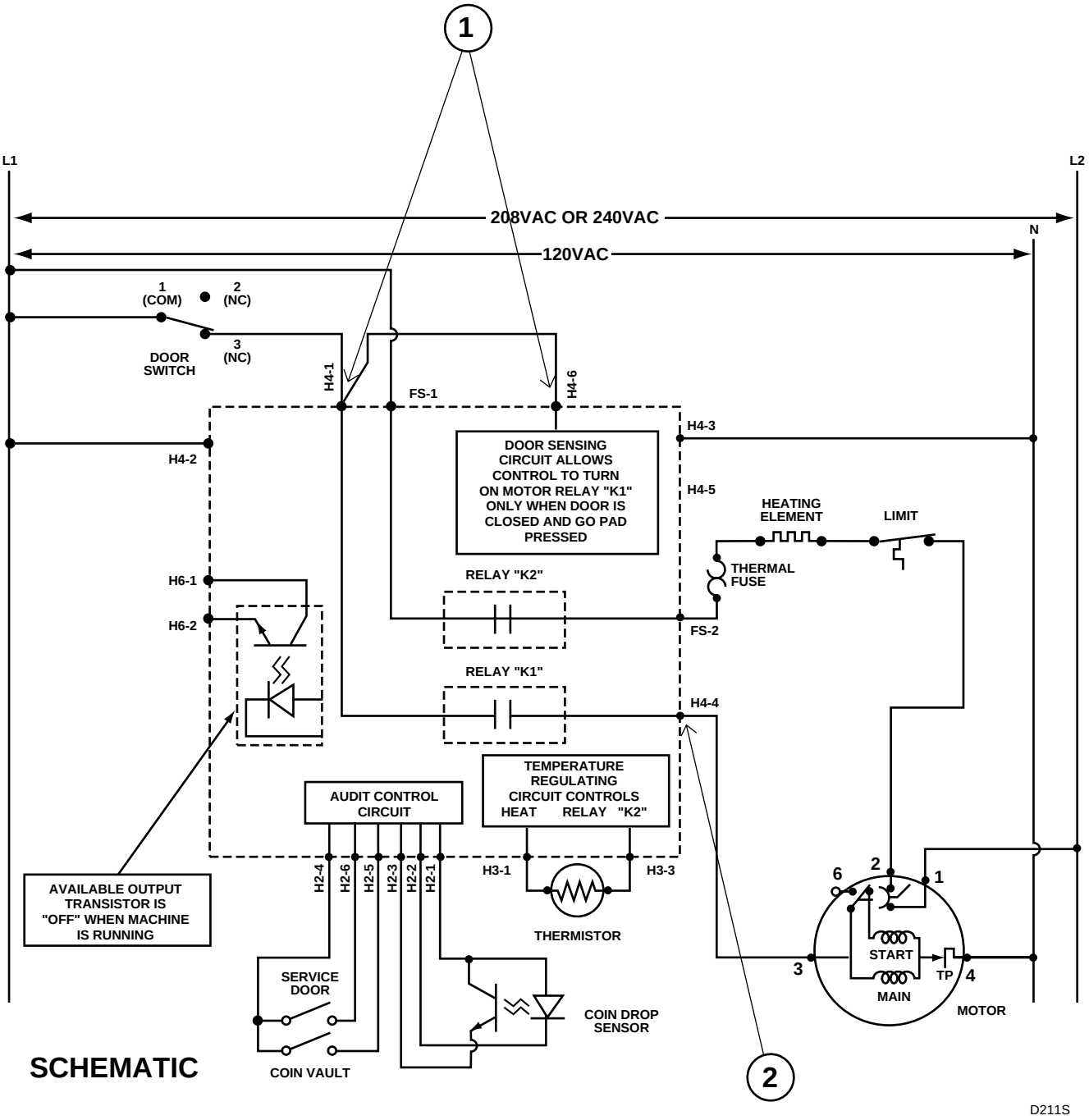
NO HEAT ANALYSIS


DURING OPERATION AN "OP" OR "SH" MAY BE DISPLAYED.
THIS INDICATES AN OPEN OR SHORTED THERMISTOR.
USE DIAGNOSTIC TEST "DRYER ON TEMPERATURE TEST".
IF "SH" OR "OP" APPEAR, DO THE FOLLOWING CHECKS:
– CHECK WIRING AT THERMISTOR.
– REPLACE THERMISTOR.
(#) NUMBERS NEXT TO VOLTAGE CHECKS CORRESPOND TO THE LOCATIONS MARKED ON THE WIRING SCHEMATIC.
DOES THE THERMISTOR TEMPERATURE CHECK OUT ACCORDING TO THE DIAGNOSTIC TEST?
YES
(1)
CHECK VOLTAGE AT GREY "FS-1" TO "H4-3", IS THERE VOLTAGE?
YES
(2)
CHECK VOLTAGE AT PINK "FS-2" TO "H4-3", IS THERE VOLTAGE?
YES
NO
AFTER CHECKING FOR CORRECT WIRING, REPLACE INOPERATIVE THERMISTOR.
NO
REPLACE INOPERATIVE WIRING AT TERMINAL BLOCK TO ELECTRONIC CONTROL.
NO
REPLACE ELECTRONIC CONTROL BOARD.
OPEN LOWER FRONT PANEL AND CHECK GLOW BAR. IS THE GLOW BAR ACTIVATING?
YES
AFTER CHECKING WIRING AT GAS VALVE, REPLACE GAS VALVE OR GAS VALVE COILS.
NO
(3)
CHECK VOLTAGE AT GAS VALVE PINK "2" TO NEUTRAL, IS THERE VOLTAGE?
YES
REPLACE INOPERATIVE GLOW BAR.
NO
REPLACE INOPERATIVE LIMIT THERMOSTAT.
D208S

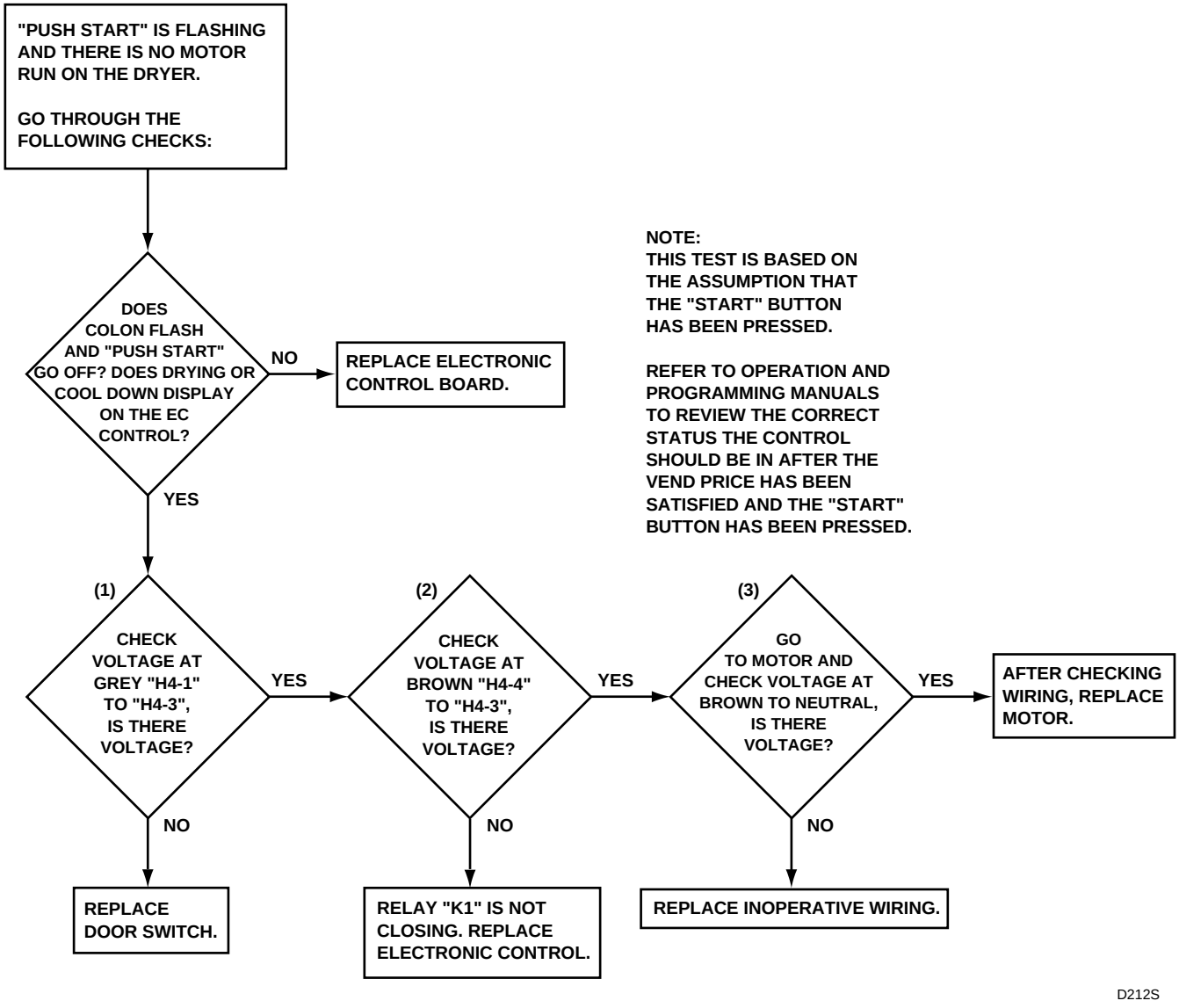

1
2
3
L1
N
120VAC 60 HZ
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
FS-1
H4-6
H4-2
H4-3
H4-5
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
LIMIT
H6-1
H6-2
RELAY "K2"
FS-2
SECONDARY COIL
SENSOR
HOLDING COIL
RELAY "K1"
H4-4
BOOSTER COIL
IGNITER
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
THERMISTOR
6
2
1
START
TP
4
3
MAIN
MOTOR
SERVICE DOOR
COIN DROP SENSOR
COIN VAULT
SCHEMATIC
D209S

NO MOTOR RUN — "DOOR OPEN" ANALYSIS

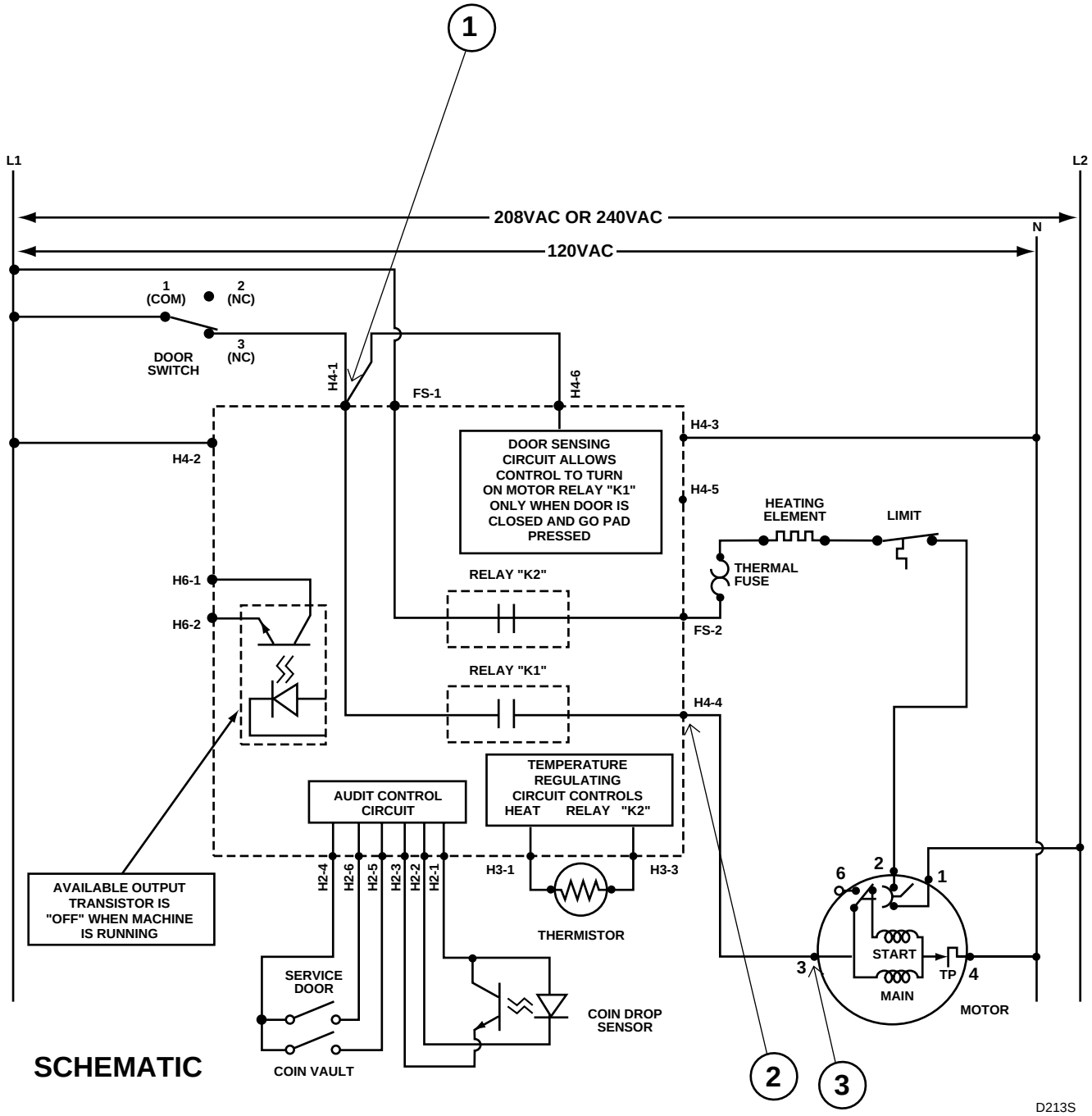

LINE VOLTAGE TO ELECTRONIC CONTROL BOARD.
DISPLAY ON.
YES
IS THE COIN COUNTER COUNTING DOWN AS COINS ARE ENTERED IN THE DROP?
YES
IS THE "DOOR OPEN" FLASHING?
YES
CLOSE DOOR.
STILL FLASHING
(1)
OPEN CONTROL-VOLTAGE CHECK.
GREY "H4-6" TO "H4-3".
GREY "H4-1" TO "H4-3".
THIS CHECKS VOLTAGE ON DOOR SWITCH COMING INTO CONTROL AND INPUT TO "K1" MOTOR RELAY.
STILL FLASHING
IF VOLTAGE IS PRESENT, REPLACE CONTROL.
STILL FLASHING
CHECK AND REPLACE INOPERATIVE WIRING AT DOOR SWITCH.
STILL FLASHING
REPLACE DOOR SWITCH.
NO
NO
NO
CHECK MAIN POWER TO DRYER.
CHECK AND REPLACE INOPERATIVE COIN DROP.
IF THE PROBLEM STILL EXISTS, REFER TO THESE OTHER TROUBLESHOOTING GUIDES: "ELECTRONIC CONTROL HAS NO VISIBLE DISPLAY" OR "COINS IGNORED WHEN ENTERED".
NOTE:
THIS TEST IS BASED ON THE ASSUMPTION THAT THE "START" BUTTON HAS BEEN PRESSED.
REFER TO OPERATION AND PROGRAMMING MANUALS TO REVIEW THE CORRECT STATUS THE CONTROL SHOULD BE IN AFTER THE VEND PRICE HAS BEEN SATISFIED AND THE "START" BUTTON HAS BEEN PRESSED.
DOES COLON FLASH AND "PUSH START" GO OFF? DOES DRYING OR COOL DOWN DISPLAY ON THE ELECTRONIC CONTROL?
YES
(2)
CHECK VOLTAGE AT EC CONTROL BROWN "H4-4" TO "H4-3", IS THERE VOLTAGE?
YES
AFTER CHECKING FOR CORRECT WIRING, REPLACE MOTOR.
NO
NO
REPLACE ELECTRONIC CONTROL BOARD.
D210S


1
L1
L2
208VAC OR 240VAC
N
120VAC
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
FS-1
H4-6
H4-2
H4-3
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
H4-5
HEATING ELEMENT
LIMIT
THERMAL FUSE
H6-1
H6-2
RELAY "K2"
FS-2
RELAY "K1"
H4-4
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
THERMISTOR
6
2
1
3
START
TP
4
MAIN
MOTOR
SERVICE DOOR
COIN DROP SENSOR
COIN VAULT
2
SCHEMATIC
D211S

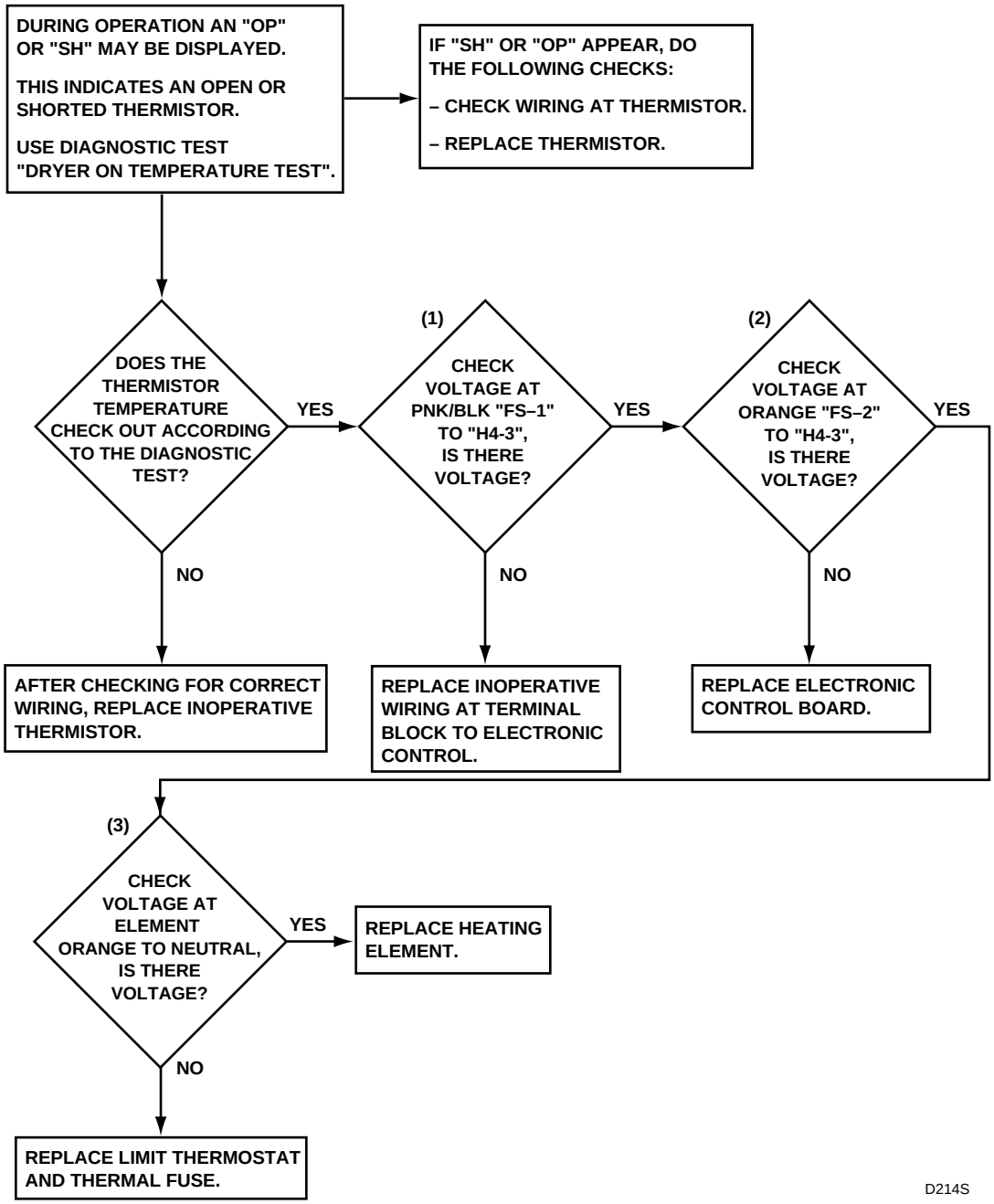
NO MOTOR RUN — “PUSH START” ANALYSIS

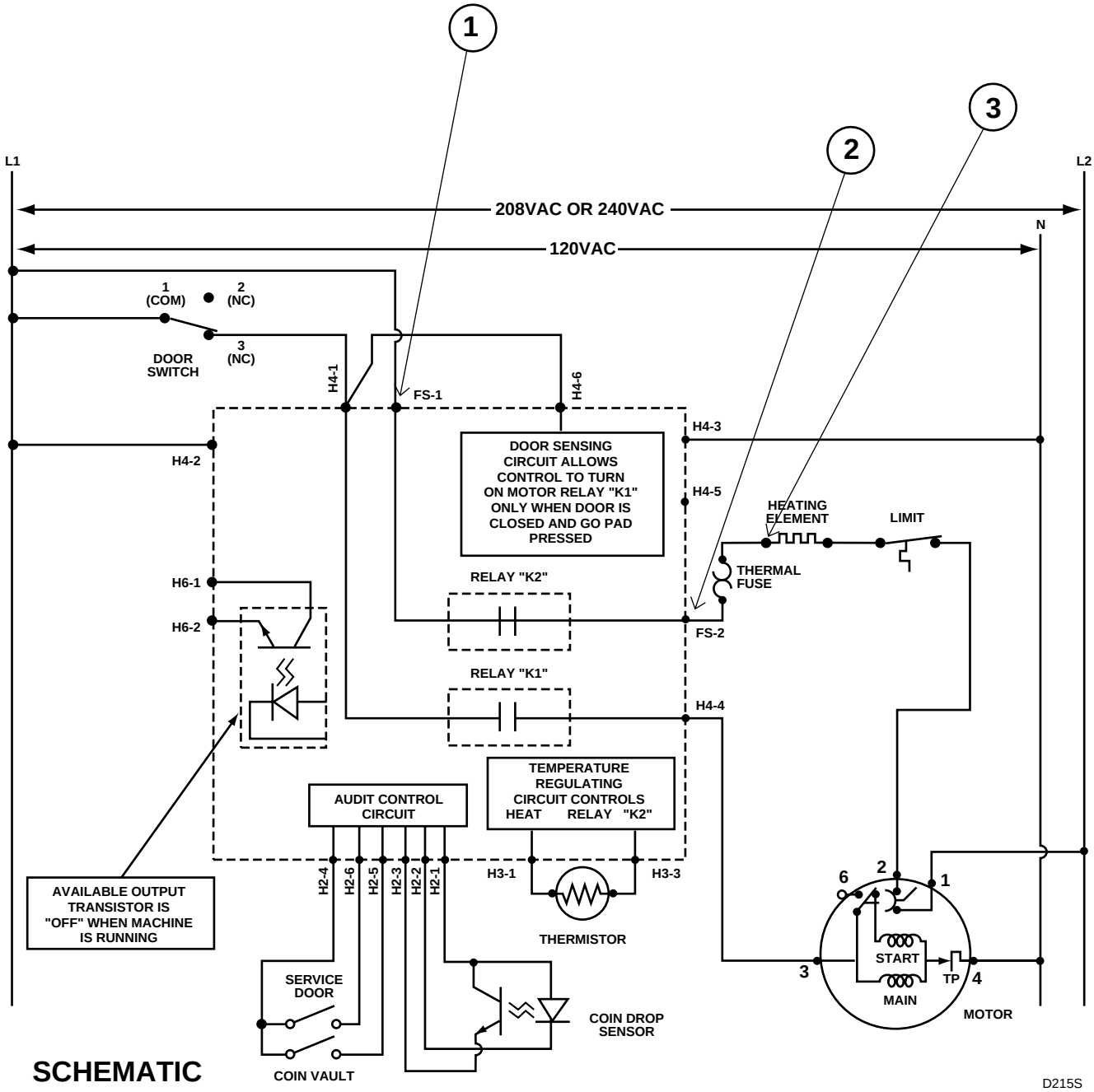

"PUSH START" IS FLASHING AND THERE IS NO MOTOR RUN ON THE DRYER.
GO THROUGH THE FOLLOWING CHECKS:
DOES COLON FLASH AND "PUSH START" GO OFF? DOES DRYING OR COOL DOWN DISPLAY ON THE EC CONTROL?
NO
REPLACE ELECTRONIC CONTROL BOARD.
YES
NOTE:
THIS TEST IS BASED ON THE ASSUMPTION THAT THE "START" BUTTON HAS BEEN PRESSED.
REFER TO OPERATION AND PROGRAMMING MANUALS TO REVIEW THE CORRECT STATUS THE CONTROL SHOULD BE IN AFTER THE VEND PRICE HAS BEEN SATISFIED AND THE "START" BUTTON HAS BEEN PRESSED.
(1)
CHECK VOLTAGE AT GREY "H4-1" TO "H4-3", IS THERE VOLTAGE?
YES
(2)
CHECK VOLTAGE AT BROWN "H4-4" TO "H4-3", IS THERE VOLTAGE?
YES
(3)
GO TO MOTOR AND CHECK VOLTAGE AT BROWN TO NEUTRAL, IS THERE VOLTAGE?
YES
AFTER CHECKING WIRING, REPLACE MOTOR.
NO
REPLACE DOOR SWITCH.
NO
RELAY "K1" IS NOT CLOSING. REPLACE ELECTRONIC CONTROL.
NO
REPLACE INOPERATIVE WIRING.

D212S

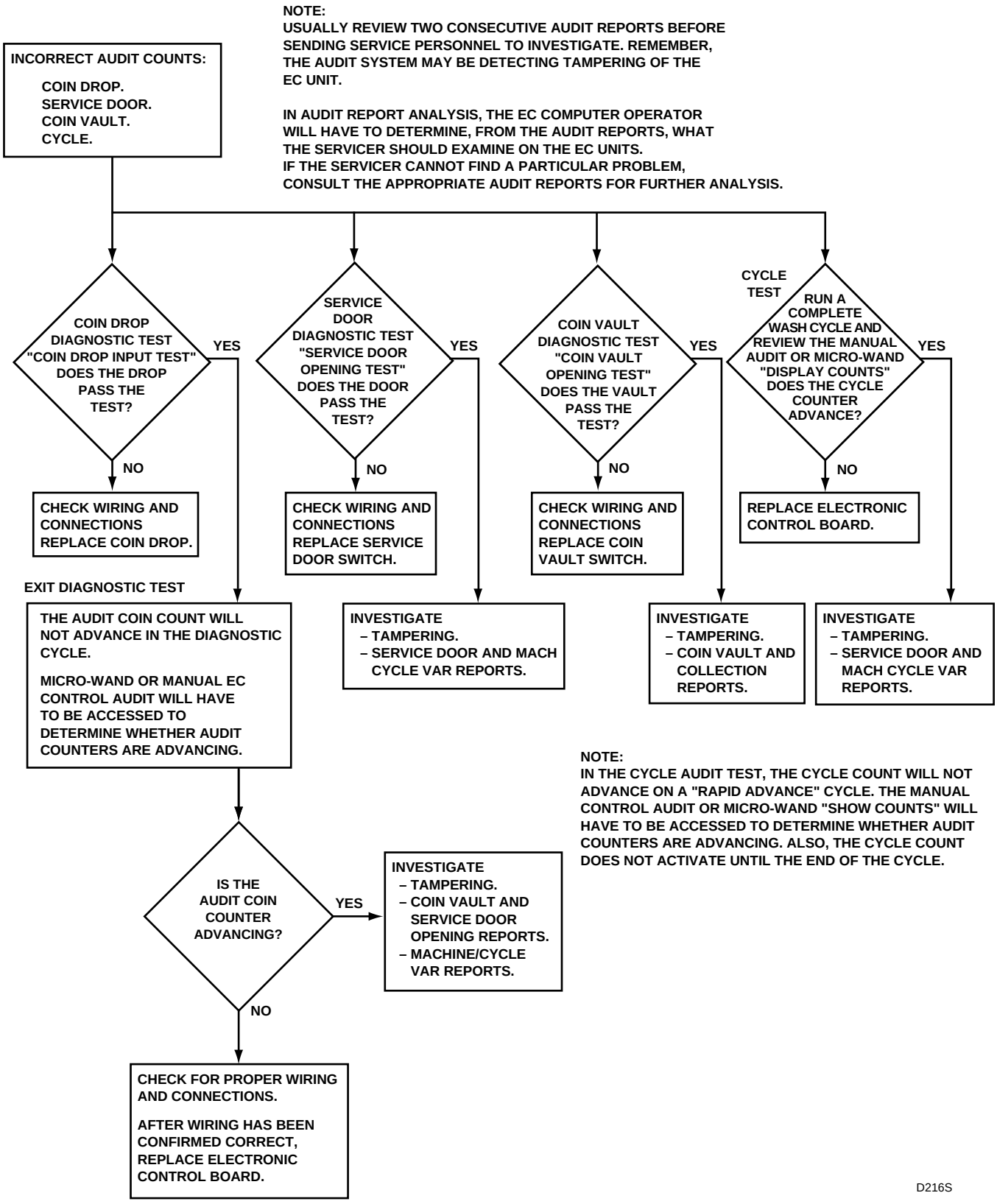

1
L1
L2
208VAC OR 240VAC
120VAC
N
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
FS-1
H4-6
H4-2
H4-3
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
H4-5
HEATING ELEMENT
LIMIT
THERMAL FUSE
H6-1
H6-2
RELAY "K2"
FS-2
RELAY "K1"
H4-4
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
THERMISTOR
SERVICE DOOR
COIN VAULT
COIN DROP SENSOR
6
2
1
3
START
TP
4
MAIN
MOTOR
SCHEMATIC
2
3
D213S

NO HEAT ANALYSIS

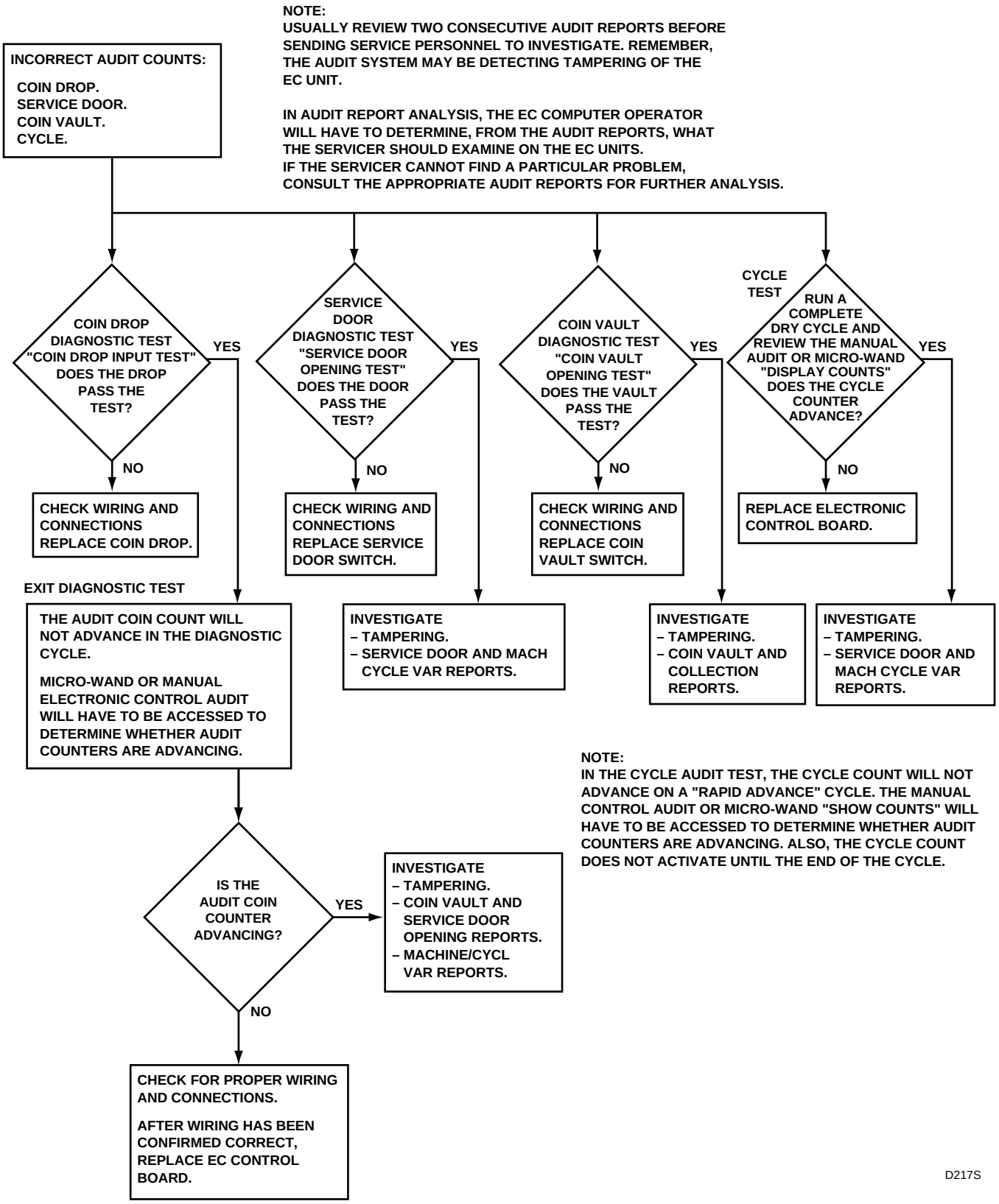

DURING OPERATION AN "OP" OR "SH" MAY BE DISPLAYED.
THIS INDICATES AN OPEN OR SHORTED THERMISTOR.
USE DIAGNOSTIC TEST "DRYER ON TEMPERATURE TEST".
IF "SH" OR "OP" APPEAR, DO THE FOLLOWING CHECKS:
– CHECK WIRING AT THERMISTOR.
– REPLACE THERMISTOR.
DOES THE THERMISTOR TEMPERATURE CHECK OUT ACCORDING TO THE DIAGNOSTIC TEST?
YES
NO
(1)
CHECK VOLTAGE AT PNK/BLK "FS–1" TO "H4-3", IS THERE VOLTAGE?
YES
NO
(2)
CHECK VOLTAGE AT ORANGE "FS–2" TO "H4-3", IS THERE VOLTAGE?
YES
NO
AFTER CHECKING FOR CORRECT WIRING, REPLACE INOPERATIVE THERMISTOR.
REPLACE INOPERATIVE WIRING AT TERMINAL BLOCK TO ELECTRONIC CONTROL.
REPLACE ELECTRONIC CONTROL BOARD.
(3)
CHECK VOLTAGE AT ELEMENT ORANGE TO NEUTRAL, IS THERE VOLTAGE?
YES
NO
REPLACE HEATING ELEMENT.
REPLACE LIMIT THERMOSTAT AND THERMAL FUSE.
D214S


1
2
3
L1
L2
208VAC OR 240VAC
120VAC
N
1 (COM)
2 (NC)
3 (NC)
DOOR SWITCH
H4-1
FS-1
H4-6
H4-2
H4-3
H4-5
DOOR SENSING CIRCUIT ALLOWS CONTROL TO TURN ON MOTOR RELAY "K1" ONLY WHEN DOOR IS CLOSED AND GO PAD PRESSED
HEATING ELEMENT
LIMIT
THERMAL FUSE
H6-1
H6-2
RELAY "K2"
FS-2
RELAY "K1"
H4-4
TEMPERATURE REGULATING CIRCUIT CONTROLS HEAT RELAY "K2"
AUDIT CONTROL CIRCUIT
H2-4
H2-6
H2-5
H2-3
H2-2
H2-1
H3-1
H3-3
THERMISTOR
AVAILABLE OUTPUT TRANSISTOR IS "OFF" WHEN MACHINE IS RUNNING
SERVICE DOOR
COIN DROP SENSOR
COIN VAULT
6
2
1
3
4
START
TP
MAIN
MOTOR
SCHEMATIC
D215S

AUDIT SWITCH FUNCTION ANALYSIS


NOTE:
USUALLY REVIEW TWO CONSECUTIVE AUDIT REPORTS BEFORE SENDING SERVICE PERSONNEL TO INVESTIGATE. REMEMBER, THE AUDIT SYSTEM MAY BE DETECTING TAMPERING OF THE EC UNIT.
IN AUDIT REPORT ANALYSIS, THE EC COMPUTER OPERATOR WILL HAVE TO DETERMINE, FROM THE AUDIT REPORTS, WHAT THE SERVICER SHOULD EXAMINE ON THE EC UNITS. IF THE SERVICER CANNOT FIND A PARTICULAR PROBLEM, CONSULT THE APPROPRIATE AUDIT REPORTS FOR FURTHER ANALYSIS.
INCORRECT AUDIT COUNTS:
COIN DROP.
SERVICE DOOR.
COIN VAULT.
CYCLE.
COIN DROP DIAGNOSTIC TEST "COIN DROP INPUT TEST" DOES THE DROP PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE COIN DROP.
SERVICE DOOR DIAGNOSTIC TEST "SERVICE DOOR OPENING TEST" DOES THE DOOR PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE SERVICE DOOR SWITCH.
COIN VAULT DIAGNOSTIC TEST "COIN VAULT OPENING TEST" DOES THE VAULT PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE COIN VAULT SWITCH.
CYCLE TEST
RUN A COMPLETE WASH CYCLE AND REVIEW THE MANUAL AUDIT OR MICRO-WAND "DISPLAY COUNTS" DOES THE CYCLE COUNTER ADVANCE?
YES
NO
REPLACE ELECTRONIC CONTROL BOARD.
EXIT DIAGNOSTIC TEST
THE AUDIT COIN COUNT WILL NOT ADVANCE IN THE DIAGNOSTIC CYCLE.
MICRO-WAND OR MANUAL EC CONTROL AUDIT WILL HAVE TO BE ACCESSED TO DETERMINE WHETHER AUDIT COUNTERS ARE ADVANCING.
INVESTIGATE
– TAMPERING.
– SERVICE DOOR AND MACH CYCLE VAR REPORTS.
INVESTIGATE
– TAMPERING.
– COIN VAULT AND COLLECTION REPORTS.
INVESTIGATE
– TAMPERING.
– SERVICE DOOR AND MACH CYCLE VAR REPORTS.
NOTE:
IN THE CYCLE AUDIT TEST, THE CYCLE COUNT WILL NOT ADVANCE ON A "RAPID ADVANCE" CYCLE. THE MANUAL CONTROL AUDIT OR MICRO-WAND "SHOW COUNTS" WILL HAVE TO BE ACCESSED TO DETERMINE WHETHER AUDIT COUNTERS ARE ADVANCING. ALSO, THE CYCLE COUNT DOES NOT ACTIVATE UNTIL THE END OF THE CYCLE.
IS THE AUDIT COIN COUNTER ADVANCING?
YES
INVESTIGATE
– TAMPERING.
– COIN VAULT AND SERVICE DOOR OPENING REPORTS.
– MACHINE/CYCLE VAR REPORTS.
NO
CHECK FOR PROPER WIRING AND CONNECTIONS.
AFTER WIRING HAS BEEN CONFIRMED CORRECT, REPLACE ELECTRONIC CONTROL BOARD.
D216S

AUDIT SWITCH FUNCTION ANALYSIS


NOTE:
USUALLY REVIEW TWO CONSECUTIVE AUDIT REPORTS BEFORE SENDING SERVICE PERSONNEL TO INVESTIGATE. REMEMBER, THE AUDIT SYSTEM MAY BE DETECTING TAMPERING OF THE EC UNIT.
IN AUDIT REPORT ANALYSIS, THE EC COMPUTER OPERATOR WILL HAVE TO DETERMINE, FROM THE AUDIT REPORTS, WHAT THE SERVICER SHOULD EXAMINE ON THE EC UNITS. IF THE SERVICER CANNOT FIND A PARTICULAR PROBLEM, CONSULT THE APPROPRIATE AUDIT REPORTS FOR FURTHER ANALYSIS.
INCORRECT AUDIT COUNTS:
COIN DROP.
SERVICE DOOR.
COIN VAULT.
CYCLE.
COIN DROP DIAGNOSTIC TEST "COIN DROP INPUT TEST" DOES THE DROP PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE COIN DROP.
SERVICE DOOR DIAGNOSTIC TEST "SERVICE DOOR OPENING TEST" DOES THE DOOR PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE SERVICE DOOR SWITCH.
COIN VAULT DIAGNOSTIC TEST "COIN VAULT OPENING TEST" DOES THE VAULT PASS THE TEST?
YES
NO
CHECK WIRING AND CONNECTIONS REPLACE COIN VAULT SWITCH.
CYCLE TEST
RUN A COMPLETE DRY CYCLE AND REVIEW THE MANUAL AUDIT OR MICRO-WAND "DISPLAY COUNTS" DOES THE CYCLE COUNTER ADVANCE?
YES
NO
REPLACE ELECTRONIC CONTROL BOARD.
EXIT DIAGNOSTIC TEST
THE AUDIT COIN COUNT WILL NOT ADVANCE IN THE DIAGNOSTIC CYCLE.
MICRO-WAND OR MANUAL ELECTRONIC CONTROL AUDIT WILL HAVE TO BE ACCESSED TO DETERMINE WHETHER AUDIT COUNTERS ARE ADVANCING.
INVESTIGATE
– TAMPERING.
– SERVICE DOOR AND MACH CYCLE VAR REPORTS.
INVESTIGATE
– TAMPERING.
– COIN VAULT AND COLLECTION REPORTS.
INVESTIGATE
– TAMPERING.
– SERVICE DOOR AND MACH CYCLE VAR REPORTS.
NOTE:
IN THE CYCLE AUDIT TEST, THE CYCLE COUNT WILL NOT ADVANCE ON A "RAPID ADVANCE" CYCLE. THE MANUAL CONTROL AUDIT OR MICRO-WAND "SHOW COUNTS" WILL HAVE TO BE ACCESSED TO DETERMINE WHETHER AUDIT COUNTERS ARE ADVANCING. ALSO, THE CYCLE COUNT DOES NOT ACTIVATE UNTIL THE END OF THE CYCLE.
IS THE AUDIT COIN COUNTER ADVANCING?
YES
INVESTIGATE
– TAMPERING.
– COIN VAULT AND SERVICE DOOR OPENING REPORTS.
– MACHINE/CYCL VAR REPORTS.
NO
CHECK FOR PROPER WIRING AND CONNECTIONS.
AFTER WIRING HAS BEEN CONFIRMED CORRECT, REPLACE EC CONTROL BOARD.
D217S